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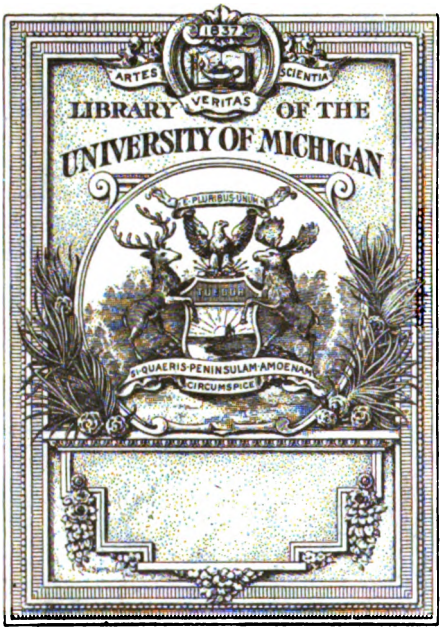

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ORIGINAL COMMUNICATIONS.

CLINICAL LECTURE ON CHRONIC STRUMOUS DISEASE OF THE ANKLE-JOINT, AND UPON METHODS OF AMPUTATION OF THE LEG.

By R. A. KINLOCH, M.D., Professor of Surgery Medical College of the State of South Carolina, delivered at the City Hospital, Charleston, S. C., October 18, 1886.

Gentlemen:—This is the first of my clinical days for this session, and, as an elementary subject will not be inappropriate, I shall bring before you a case of chronic disease of the ankle-joint, in this colored adult who is before you, and whom you see is much emaciated, and has a haggard look from long suffering. The joint is greatly enlarged, and its conformation altered; here are several fistulous openings upon either side, discharging a thin purulent fluid; the sufferer winces and complains when, using the foot as a lever, I disturb the diseased joint. The true pathology, or special disease, of the articulation I shall explain to you directly. I regard the operation of amputation through the leg as the means most likely to afford relief, and I shall first invite your attention to some points connected with such operation.

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Many, if not all of you, know what we mean by an amputation. For the benefit of the beginners let me say that we use the term to signify the removal of a limb, or the portion of a limb, from the body. We, in such removal, either operate through the continuity of the bones or through the joints. Amputations in the earlier ages of surgery were justly regarded as opprobia of the art, and justly so, when there was no proper provision for controlling hæmorrhage, and when death was the rule, and not the exception. With the knowledge of anatomy and the use of the tourniquet and the ligature, things have changed, and an amputation is now often one of the greatest triumphs of the surgeon. When such operation is judiciously selected to remove disease, otherwise incurable, to relieve suffering, to overcome deformity, to restore or increase the usefulness of a member, or to preserve life, surely it is a warrantable procedure, and one that we can be proud of.

After determining upon an amputation, we have always to consider, *first*, the point to be selected for the operation; and *next*, the particular method to be practiced. The point may be selected because of the greater safety insured to the patient; or have reference mainly to the future usefulness of the limb. As a rule the nearer such operations approach the trunk the greater the danger to the life of the patient. Hence many surgeons contend that there should be left as much of a limb as is possible, if by so doing there be no violation of fixed surgical principles. If, however, the future usefulness of the limb be called into question, we have often to depart to a certain extent from so arbitrary a rule of practice. This very question has been much discussed in the case of amputations of the leg. Where the operation is done three or four fingers'-breadth below the knee, the stump can be flexed and the individual have firm support by resting the lower broad anterior end of the femur upon what we call a peg-leg. For a poor working man this kind of leg is inexpensive, and it admirably sustains the weight of the body. If amputation is practiced through the middle of the leg, or just above the ankle, the artificial leg must be a kind of hollow cone in which is received the long stump, and the weight of the body has to be borne by the thigh and leg, adjusted to the artificial limb by a peculiar arrangement which prevents undue pressure because of many parts sharing in the support of the weight. Such a limb is beautifully made at the present day, but it is expensive and often unsatisfactory where the wearer has to be upon his feet long at a time. Sometimes we must yield to the prejudices of the sufferer

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himself, who has a fancy for preserving as long a limb as possible. For this reason I propose to give this man a long stump.

In certain cases the principles of surgery admit of no choice. For instance, if we are to operate for malignant disease, we must go far above its seat, so as to leave behind no diseased elements. Or, again, in certain cases of severe injury, as in railroad accidents, where there has been crushing force and great tearing and dragging of the tegumentary and other soft tissues, experience proves that if the operation is done near to the injury, although the skin looks sound, the stump will slowly mortify. The vitality of the parts are affected higher up than would be supposed because of the injury to the nutrient vessels, and hence such parts slough at a later period. Never forget this important fact, for it will save you from having to do many secondary operations. I will shortly explain to you how the nature of the diseased condition before us will necessitate my operating well above the joints.

Next, the point for operation being agreed upon, we must choose a special method of operating. For the leg we have a choice of many methods. Each surgeon can suit his fancy. Usually the method is determined by the kind of covering it will give the bones of the stump, or by the facility or celerity with which it can be executed, or by the evil consequences it enables us to avoid, or because of the likelihood of its yielding quick union. A purely circular incision, with tegumentary flap, used to be greatly in vogue, and is yet practiced by some. It is tedious to turn up the flap, like I do the cuff of my sleeve, and this cannot be done where the leg is muscular and conical. Such a flap comes together like the mouth of a purse, and this is preventive of union by the first intention. I never practice or recommend such a method. I also am disposed to reject antero-posterior flaps, whether tegumentary or in part muscular, for the edge of the cut tibia is apt to induce ulceration of the anterior flap, or the weight of the posterior flap prevents union. There is greater danger of necrosis of the bone and of a conical stump after this method. I rather prefer the lateral skin flaps of equal size, or the "hood-flap" of Dr. Stephen Smith of New York. This latter, however, is not as easily turned up as are the lateral flaps, and moreover, when the sutures are adjusted, it is found that there is a superfluity of tissue, above and over the tibia, which rather opposes primary union, and does not readily permit of the covering adapting itself to the bones,

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The drainage with the hood flap is no better insured than it is with lateral flaps. I propose, then, upon this occasion, to select the lateral tegumentary flaps. Before proceeding to operate I will look to the instruments to be used. Never trust this entirely to your assistants. When you wish a knife, or a saw, or a forceps, or a ligature, or a tourniquet, these should all be at hand. A belief in modern antiseptic surgery leads one to be more particular as to all the details in operations, and the character of the instruments, dressings, etc. I cannot now go into the details of this matter, but will only say that I have great faith in certain cardinal features of antiseptic surgery. There must be cleanliness as to hands and person, as to instruments and sponges, absolute arrest of bleeding, security as to drainage, nice adjustment of the wound, proper support or rest of parts; ligatures and sutures should be antiseptic. As to the use of agents for killing or excluding germs, or for preventing decomposition of the inflammatory products, I shall not pass an opinion, except to say that the use of many of these cannot be objectionable, as they do not oppose cleanliness or act as irritants. I have a personal objection, however, to some of the strong solutions because of their effect upon my hands. I have for two seasons suffered much from this cause, and I am almost disposed, in cleansing wounds, to go back to pure water that has been boiled.

Now we will do the operation: Esmarch's bandage has been applied to enable us to have a bloodless operation. I stand upon the outside of the leg (right leg) and make the lateral flaps by first entering the point of the knife behind in the middle of the leg, then cutting upwards, or towards me, I complete a semi-lunar incision at the spine of the tibia in front. The other flap is made by simply reversing the direction of the cutting, now upon the side nearest me, and ending the second incision where I began the first, upon the under side of the limb. The two flaps are quickly turned up, then the deeper structures are cut through by a circular sweep of the knife, the inter-osseous muscles and membrane divided and the bones sawed. The next step is to secure the arteries. I will turn this duty and the dressing of the stump over to my assistants, while I show you the diseased joint and remark upon its characteristics.

I have already called your attention to the enlargement of the joint, the thickened structures, the fistulæ upon either side. The movements of the joint were necessarily restricted and painful because

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of the infiltration of the tissues and the contracted ligaments. A rough grating is readily perceived, as I manipulate the foot and try to flex and extend it upon the leg. The enlargement of the joint is not uniform, but, as you see, there is fulness in front and beneath the extensor tendons, while the most marked swelling is upon each side, below and around the maleoli. This gives increased width to the joint, noticeable most when looking at it from behind. Always when examining a case of suspected joint disease, observe carefully the character of the swelling; don't confound an enlargement of a neighboring bursa, or an effusion into tendinous sheaths, with disease of the joint proper. You will, however, often find such conditions complicating joint diseases. Diseases of the several articulations may be either acute or chronic. Different diseases or diseased conditions, involve distinct portions of joint structure. The origin of disease is at times in one structure and again in another structure; finally all of the structures may become involved in the pathological change. Most commonly, perhaps, disease begins in the synovial membrane, or in the ends of the bones. Besides these, as you know, we have cartilages, ligaments and the soft structures exterior to the joints. With such complicated relations, it is natural that diseases of the joints should present the most complicated features or varied pathological conditions. As to cause, disease is at times traceable to traumatic injuries, slight or severe; or it is developed as an expression, as it were, of a diathesis; or because of some special neoplasm or specific infiltrations. The experienced surgeon learns to take in all of these matters at a glance.

But to turn to the particular case before us. We have here certainly a chronic disease with the most destructive changes. The history runs back certainly over a year; the origin is doubtful, but we have no certain evidences of traumatism. I will cut into the joint, and I expect to find cartilages destroyed, bones carious, synovial membrane thickened and pulpy. See! I am correct! Notice the ends of the bones, tibia and fibula enlarged, softened and crumbling, the cartilages of incrustation gone; here are small abscess cavities, secreted in the thickened and softened tissues. These tissues, that is to say, the synovial membrane, ligaments and exterior soft parts are blended together, gelatinized, thick and pulpy. The disease we have had to deal with is *chronic strumous arthritis*—the white swelling of old authors, the pulpy degeneration of the synovial membrane of some, the purgating joint disease of others. Look how this pulpy material

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seems to extend everywhere as by infiltration; it literally looks as though it had been preying upon all the tissues, or converting them into a like structure. Regarded as a strumous disease, we have here a kind of tuberculosis of the joint. This is a typical example. Such disease is common in hospitals, common among the poor and with young subjects, common with the negro race, and more especially with the mulatto, who is a kind of hybrid, and frequently presents us with strumous affections.

For the relief of this kind of joint disease general treatment of a nutritive and restorative kind, together with iodine, iron, cod-liver oil, etc., avails somewhat in the incipient stages. Absolute rest of the joints, extension and counter-extension are frequently effective means. In the latter stages, sometimes resection of the joint may take the place of amputation in a certain class of subjects. Again, in some of the articulations the diseased material may be scooped out until healthy tissue is reached upon all sides. I have not time to day to enter upon all these questions. Our patient is most likely to recover promptly, and to be restored to health, at least for a time. I, however, always fear in this class of subjects a renewal of the disease elsewhere, a transfer, as it were, of the morbid condition to other joints, or perhaps to more vital organs, where struma is prone to manifest itself, and where surgery cannot follow.

REDUCTION OF COPPER IN FEHLING'S SOLUTION WITH CHLORAL HYDRATE.--WOODSTOCK, VT., November 12, 1886.—*Mr. Editor:*—On applying Fehling's test to a specimen of urine sent to me for examination, I found the copper reduced as with diabetic urine, while the specific gravity was only 1015. On inquiry, I found that a few grains of chloral hydrate had been added to the urine to prevent decomposition. On further trial I found that a very weak solution of chloral hydrate in clear water would reduce the copper. I have since experimented with it in different solutions and varying strength, and always with the same results. In two cases, after the internal administration of medicinal doses of chloral, the characteristic reaction was produced on testing the urine with the copper solution. Two days afterwards the urine in neither case showed any signs of sugar. The fact that chloral hydrate would reduce the copper solutions if added to urine, was new to me, and I think is not generally known. I do not remember seeing any mention of it in the text-books or journals. Further investigation regarding the effect on the urine of the internal use of chloral is desirable. Very truly yours,

O. W. SHERWIN, M.D.

—*Boston Medical and Surgical Journal.*

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TWO CASES OF CHRONIC ABSCESS OF THE ANTRUM SIMULATING CHRONIC NASAL CATARRH.

By David B. Frontis, M.D, Wadesborough, N. C.

The history of the following cases of chronic abscess of the antrum present some points of interest:

Case 1.—J. H., aged 40, farmer, presented himself at my office, May, 1885, and reported himself a sufferer from chronic nasal catarrh for the past two years, for which he desired treatment.

He had been under the care of two physicians, previously, with temporary benefit, and as usual in such cases, had taken an immense quantity of "Catarrh Specifics."

On examination I found his trouble located in right nostril. No deviation of septum, no obstruction to respiration. Viewed through the speculum, the mucous membrane appeared very much congested, deep red and rather sodden-looking. Little particles of a thick, tenacious muco-purulent discharge could be seen distributed throughout nasal cavity, but more especially on septum and inferior turbinated bones. Viewed orally, the upper part of pharynx appeared congested also, but I saw no discharge. No protrusion of hard palate. Patient says that the nasal discharge varies from time to time; when abundant he uses as many as three handkerchiefs a day, and hawks and spits it also. At times has a troublesome cough. Odor also varies, sometimes very fetid, but ordinarily only moderately so. Complains of no pain except occasional headache, and sometimes has pain over right eye, with occasional spasm of right orbicular muscle. He has lost weight gradually, and there is great physical prostration and loss of energy. Is not able to take long walks without feeling exhausted. Appetite good. Thinks he has some hectic fever at times. There is some alteration of voice; cannot sing as formerly. The only point he can give in regard to the origin of his trouble is that in April, 1883, he suffered from an attack of what he and his physician called facial neuralgia. On one occasion he blew from his nostril bloody pus, not offensive. Shortly afterwards he noticed a little discharge of an offensive character, which slowly increased. On careful enquiry he did not remember any swelling and did not think he had much fever. Has suffered with toothache and has had second upper molar on right

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side extracted. I was led to suspect abscess of the antrum from having read an article by Dr. Goodwillie, of New York, on "The Antrum of Highmore and some of Its Diseases," in the *Medical News* of September 20, 1884. I made careful percussion with Flint's hammer and pleximeter over right cheek-bone at junction of molar with superior maxilla; on the right side this gave forth a peculiar, dull, cracked sound, entirely different from the clear resonance on the left side. The sound was so different that it attracted the patient's attention at once. I now felt satisfied that there was some trouble in the antrum, although there was no swelling, either externally or on palate. I took the patient to the office of my friend, Dr. H. H. DePew, dentist, who found that the gum had never healed over, when the second upper molar had been extracted, and that it was in a very unhealthy condition. He extracted a small bit of necrosed alveolar border, also the first molar, as it was also decayed. An opening was very easily made from the root of second molar into antrum. A dentist's syringe was now inserted into this opening and a stream of warm water forced through the nostril. This brought out a large quantity of fearfully offensive, thick, grumous pus. Almost immediately the patient expressed himself as feeling as if relieved from an immense burden. A tube made from a hard rubber Eustachian catheter was then inserted into antrum through this artificial opening. The antrum was to be carefully syringed out with a wash of phenol-sodium, 20 drops to ʒ j water three times a day. Listerine, 3 j to ʒ j water was afterwards substituted, and finally iodoform diluted with lycopodium was blown into antrum with the ordinary powder-blower every second day until the cure was complete, which was in about four months after the operation. I had the hearty coöperation of my patient in carrying out the details of this treatment. The hard rubber tube would occasionally be lost, and possessing great mechanical ingenuity, he learned to make these from the back of an ordinary rubber comb, and would insert it himself. His improvement was rapid and striking. Hectic fevers, cough and headache ceased at once. Gained in flesh and strength rapidly. Vocal powers were completely restored. Six months after operation was heavier than for several years past.

Case 2.—B. E., male, aged 21, September 9. This patient also applied to me for treatment for chronic nasal catarrh and for a

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troublesome cough, but was especially alarmed about the cough. Examined his chest first, and found resonance slightly diminished over left apex with a few dry sibilant rales on full inspiration. Respiration 30, expiration not prolonged. Pulse 100. Attributed this partly to excitement, as he seemed very uneasy about himself. Temperature 101°. Examination of nasal cavities revealed the trouble located in left nostril. Mucous membrane intensely red, but not presenting the swollen, boggy appearance of Case 1. There was no deviation of septum or obstruction. Dilating nostril widely, and with a good reflected light, I could see the opening from the antrum close to upper border of inferior turbinated bone. It appeared ashy white, and around this opening the discharge was most abundant and faded off from this point. The discharge seemed to gravitate towards posterior part of middle meatus. On septum scarcely none could be seen. The character of this discharge was different from Case 2; it was thinner, but tenacious and of a dirty or ashy white color, resembling the discharge from a scrofulous gland. Pharynx on left side was deeply congested, but at the time of my examination saw none of this nasal discharge on its surface. Percussion over left cheek gave a resonance somewhat different from right side, but by no means so distinct as in Case 1. No swelling externally or orally. First and second left upper molar teeth slightly decayed. He had absolutely no recollection of any symptoms pointing to acute abscess of the antrum. Has had severe headache, more especially over left eye. Health has been failing for six or eight months. Has been having dumb chills and slight night-sweats.

I gave a very guarded opinion about this case. While I was pretty certain he had a chronic antral abscess, yet, with the slight diminution of resonance over left apex, the increase in frequency of pulse and respiration, the temperature, taken in connection with the history of rigors and night-sweats, I felt almost equally certain that it was a case of incipient phthisis. Family history fairly good. One sister died of consumption. Mother is still living in good health, and father died at an advanced age. I advised an opening into antrum, although I could not promise that it would relieve all his symptoms. Put him on tonic treatment, and he returned September 15th to have the operation performed. Dr. Brown, of Ansonville, his family dentist, kindly did the mechanical work for

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me, extracting first and second upper molars on left side and drilling an opening into antrum from the cavity of root of second molar. The roots of first molar were sound, but those of second were very much diseased and were offensive. A dentist's syringe was again inserted into antrum and a stream of warm water forced through brought out a quantity of thin, very offensive pus. This opening was enlarged to something more than an eighth of an inch in diameter, and a short, hard rubber tube inserted. Patient was directed to syringe out the cavity three times a day with a solution of phenol-sodique, 20 drops to ʒj water. In two weeks this was replaced by boroglyceride, 50 per cent. ʒj to ʒj water. In this case the hard rubber tube irradiates the gums so much that he did not succeed in wearing it very long, but the opening made did not close, and there was no trouble to introduce a properly curved syringe with which to wash out the antrum. After using boroglyceride one month, iodoform was tried, but he did not seem to be able to use it very effectually, so I returned to the boroglyceride. The local treatment in this case was supplemented by the administration of general tonics. Improvement was equally as striking as in Case 1. Chills, fever and night-sweats ceased at once. Examined two and a half months after operation. I failed to detect any trouble in lungs at all. Respiration, pulse and temperature all normal. Weight greater now than it ever was. The discharge from the nostril has not entirely ceased. This young man did not take the interest in the treatment of his case that my first patient did. As he lived some distance he only came to my office about once in a fortnight. I have decided that if improvement does not continue, to make an opening into antrum from the interior meatus, so as to get better drainage and facilitate the cleansing of the cavity.

The usual causes enumerated of chronic nasal catarrh are frequent colds, enlarged tonsils, elongated uvula obstruction from deviation of septum, contact of superior and middle turbinated bones with septum, abuse of tobacco, snuff and vitiated atmosphere. None of the works on practice that I have access to, including Reynolds' and Pepper's System of Medicine, make any allusion to antral abscess as a causative factor. Dr. Goodwillie, in his article referred to above, says:

"Catarrh of the antrum is a disease in its earlier stage too little

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recognized. It co-exists with catarrh of the nasal cavity, and is often the primary cause. The opening from the antral cavity becomes enlarged, and the fetid catarrhal secretion passes into the nasal cavity."

In Dr. Goodwillie's cases the symptoms of antral abscess were prominent and unmistakable, and they were treated for the antral disease. In my cases the nasal catarrh was the prominent disease, and the resual symptoms of antral abscess were conspicuous by their absence. There had never been any throbbing pain, with heat, redness or swelling. No chills or fever at the outset. No bulging of antral wall had ever been detected. Unquestionably both cases originated from a pulpitis: in the first case probably suppuration, opening into antrum and discharging suddenly into nasal cavity, as detailed in the history. In the second case the process was probably slower. The pulpitis extending by contiguity to walls of antrum, and setting up a chronic inflammation and catarrh of this cavity. Hence we readily see that the nature of this discharge may vary from a thin catarrhal secretion to a thick purulent one. It is also evident that the odor would vary, being least when discharge was least and drainage most perfect, and greatest when the opposite condition prevailed. In neither patient was the odor ever so disagreeable as to be noticed by a companion.

The cough is an interesting study in these cases. In Case 1 cough was rather dry and hacking, at times troublesome, again almost entirely disappearing. In Case 2 the cough was the most alarming symptom to the patient, and, considered with the concomita, was a source of doubt and perplexity to the physician. Viewed in the light of the result, there can be no question but that in both instances it was a reflex nasal cough. *Dr. John Mackensie first described explicitly this reflex nasal cough and he found that the mucous membrane coursing the corpora cavernosa, and especially that upon the posterior extremity of the inferior turbinated bone and the septum immediately opposite, when stimulated either artificially or by local pathological processes, would result in the production of a reflex cough. The muco purulent discharge from the antrum gravitated over this posterior extremity of the inferior turbinated bone, producing a congestion and irritation which

*Mackensie, Nasal Cough, *American Journal Medical Sciences*, July, 1883

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finally resulted in the expression of this reflex cough. As soon as this source of irritation was removed, the cough ceased, and with it the entire train of symptoms that were so portentous of incipient pulmonary phthisis.

The gradual decline in health, loss of flesh, rigors and night-sweats were doubtless the result of a mild grade of septicæmia.

The very practical question now presents itself as to what per cent. of cases of chronic nasal catarrh have an origin in disease of the antrum. A village practitioner could never expect to see a sufficient number of cases to draw any valuable conclusions, but it is highly probable that a large proportion of those cases classed as unobstructive originate in this way. Since treating these cases I have noticed that *"Zeim holds that many cases of persistent ozoma and nasal blenorrhœa are kept up by disease of the mucous membrane of the antrum. The symptoms of this complication are very vague, and in no less than twenty-nine cases out of a total of thirty-seven in which he perforated the anterior wall, he found pus in the cavity."

Can the diagnosis be made more clearly? I am led to believe that often the nasal cavity can be sufficiently dilated to see the opening from the antrum into middle meatus; and if it can be seen it is not likely there will be found any difficulty in deciding whether the catarrhal secretion or muco-pus proceeds out of this operation or not. The configuration of the nasal walls was such that in Case 1 I could not get such a view, while it was comparatively easy in Case 2.

Percussion with the hammer and pleximeter gave valuable indications in my cases. But I am not inclined to put too much stress on this, for natural variations in the size of the two cavities might be misleading. I have tried percussion, however, over a number of antrums supposed to be healthy, without being able to detect any difference in the sounds. If the teeth did not show signs of decay on the diseased side, tapping them with a steel instrument would be apt to elicit pain if there was periostitis or pulpitis.

I would sum up thus:

1. Given a case of chronic nasal catarrh not dependent on obstruction or other discernible cause, *suspect antral disease.*

American Journal Medical Sciences, October, 1886, p. 557.

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2. A positive diagnosis can be made if the normal opening between antrum and nasal cavity can be seen and the discharge be found most abundant here and to reproduce itself when wiped away.

3. A probable diagnosis can be made by noting carefully the difference in percussion resonance on the two sides. If both nares are affected no benefit could be expected from this.*

4. It would be additional evidence to find teeth diseased or tender on suspected side. If such be the case, they should be extracted at once, an opening drilled into antrum and the cavity washed out. This will clear up the diagnosis, and if a mistake has been made no harm will be done, as it is a very simple operation and a small opening will soon close.

5. Treatment consists in making a free opening, securing drainage with a tube, if possible, and cleansing cavity with antiseptic washes or powders. If unusually rebellious, make a counter opening from inferior meatus into antrum to facilitate more thorough cleansing. If the case be of long standing it may be necessary to treat locally the nasal mucous membrane also.

Science speaks of recent experiments with the common tonic, the tincture of the chloride of iron, diluted with water, showing that when thus diluted it acts very injuriously upon the teeth. This is explained by the fact that the peroxide formed in the alcoholic solution is precipitated, when water is present, in such a flocculent form as not to adhere to the surface of the teeth, and consequently the free hydrochloric acid can act upon the lime-salts of the teeth without let or hindrance. When the tincture is given without water, no action takes place; the peroxide which is then formed is of the anhydrous form, and so compact as to adhere to the teeth and protect them from the action of the acid. These experiments have resulted in determining that there are three menstrua which can be used as diluents of this tincture, which will produce no injurious effects upon the teeth: they are alcohol in some form, Vichy water and a simple syrup.—*Boston Medical and Surgical Journal.*

*I would remark here that both these patients thought that their catarrh existed on both sides, although worse on one. No doubt some of this irritating secretion would occasionally get on sound side, and if it could in sufficient quantity, would produce the same evidence of congestion and inflammation as are apparent in nares and naso-pharynx on the side of its origin.

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REST FOR PAINFUL EYES; IS THIS ADVICE ALWAYS GOOD?

By Julian J. Chisolm, M.D., Professor of Eye and Ear Diseases in the University of Maryland, Surgeon in Charge of the Presbyterian Eye and Ear Charity Hospital of Baltimore City, etc., etc.; read before the Baltimore Academy of Medicine, December 21, 1886.

When the eyes tire under much and long-continued use, relief naturally comes with rest, and we voluntarily desist from work so that the eyes may regain their normal condition of comfort; and this they rapidly do. This eye weariness, which comes on simultaneously with a tired feeling in the whole body, is not a painful condition. That it is a general discomfort which rest relieves, is familiar to us all as individuals, and hence we are ever ready to acquiesce in the proposal to rest our painful eyes, when such advice comes from the physician to whom we have appealed for treatment. *But is this advice always good?*

To answer correctly this very important question eye troubles must be classified into two great divisions.

First.—We have diseased states of the eyes, inflammatory in their nature, accompanied by pain, with other evidences of congestion, and often associated with blurred vision.

Second.—This great division comprises faults in eye construction, defects in the focusing power, errors in refraction, unaccompanied by visible congestions except on abusive use of the organ.

In one or the other of these two great classes most eye troubles can be placed.

When we see an eye that is red, watering, painful, and in many instances accompanied with blurred vision, whether this trouble be in one or in both eyes, we naturally and properly advise rest from eye work, while the inflammatory symptoms are being relieved by judicious medication. We even shut out the normal retinal stimulus, light, by smoked glasses or darkened rooms, and thereby add to the comfort of the patient.

All eyes, painful under use, are not necessarily inflamed ones. On the contrary, a very large number of the most annoying eye troubles are not dependent upon diseased conditions. The discom-

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fort induced by the use of such eyes is occasioned by faults in the focusing power, necessitating over-use of the eye muscles, and subsequent pain in the eyes and head. Any disturbance of the system which causes temporarily general muscular debility, will diminish the force of the eye muscles and increase the tendency to head and eye pains. As these eye faults are most frequently congenital, starting with our very being, they often commence to show their injurious effects when young; growing and not necessarily over-strong eyes, are taxed in the acquisition of knowledge, and when the advice to rest these painful eyes for months at a time is a serious interference with school life and with education. In this classification is brought a very large number of young persons, whose eyes are badly shaped, and hence pain in them on use.

A well shaped eye should be nearly a sphere. In such a round eye the inner or retinal coat will receive the focused image, sharply defined, of distant objects, without aid from the muscles of accommodation. These important muscles, within such an eye-ball, are called into use when the eye is viewing near objects. Writing, reading and sewing are properly called eye work, because they require the need of the accommodating eye muscles. All other uses to which the eyes are put, except the viewing of near objects, mean rest. This of course is not rest from retinal work, which is going on actively as long as our eyes are opened, for as a rule the retina does not seem to tire. It means rest from intra-ocular muscular work. Such a round eye is called *emmetropic*, and is the type of a good one. This is the kind of eye that nature should always supply to the human race.

Unfortunately from this standard, deviations, detrimental to the comfortable uses of the organ, are found in numbers. Many children are born with eyes flattened from before backwards, so that the retina is brought too near the lens, and therefore in front of its normal focus plane. This flat eye is called over-sighted or *hyperopic*. Such a flat eye, when at rest, does not see even a distant object sharply. It needs muscular work for all purposes, to enable it to focus light from far as well as from near objects. Such an eye is never at rest during waking hours. As nature abhors a vacuum, so badly shaped eyes may be said to abhor badly defined pictures on the retina. An effort is made involuntarily by the flat eye to sharpen outlines and perfect the focus. This is always a muscular

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effort. When required for distant vision, as is always the case with flat eyes, some of the muscular force of the eye is used up, leaving less for the accommodating power in viewing small near objects. If the eye be very flat and the demand upon the muscular apparatus necessarily very great for even distant objects, then the moderate use of the eyes for reading soon exhausts the remaining muscular power. After reading for a short time the natural relaxation of the over-worked and tired muscles changes the focus of the lens, blurs the image upon the retina, and causes the letters of a page to run together. A little rest enables the muscles to resume work and the printed page to be again clearly seen, but a very few more minutes' use of the tired muscle again blurs the page. If the effort to read be persisted in, pain in the eyes and in the head ensues. If the muscular force be weakened by any acute disease, then the eyes give out the sooner. We experience this in children after measles, diphtheria, etc. Children who could study with comfort before the attack find themselves unable to read for any length of time afterwards. Often months are required before the eye muscles again become strong.

An eye may be so very short in its antero-posterior diameter that all the intra-ocular muscular power is required for viewing distant objects, leaving none for near work. Children with such badly shaped eyes cannot study, because from deficiency in the focusing power of the crystaline lens they cannot distinguish the shape of the small letters. The nervous apparatus of such an eye is good. The retina and optic nerve are perfect, but the picture thrown upon this retinal screen is blurred, solely for want of accurate focusing power. Add to the lens power, and perfect vision for small objects is at once obtained. The accidental use of their grandmother's glasses to aid the crystaline lens to focus a sharply defined image is a marvellous revelation to such an eye, and shows just what it requires to make it a strong, useful organ, viz: a pair of properly adjusted magnifying spectacles. With such scientific aid the child is in condition to undertake hard study, and seeing clearly becomes easy. Because over-exertion of the eye muscles is no longer required when the child wears properly selected glasses, no more pain in eyes and head is experienced during study hours.

Although rest from near work will always bring about relief from the pain consequent upon over muscular exertion, the advice so

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often given to parents by the family physician, to take hyperopic children from school, and let them rest their eyes from study, for months at a time, is bad, because it is founded on ignorance of the cause producing the trouble. At the end of six or twelve months the eye is just as misshaped as it was before the rest was taken, and application for near work will surely bring back the former painful discomfort. This is a matter of every day observation. Adjust proper glasses, correct the error of refraction, give the eye muscles less work to do by allowing the eye to do its work with spectacles on, and consequently without effort, is surely the rational course to be pursued. *With the aid of magnifying glasses for all uses a flat eye will need no rest. To rest such eyes with the expectation that they will become strong, is delusive, and is therefore bad advice.*

Again an eye may be misshaped from the round standard by being longer than it ought to be. An eye long in its antero-posterior diameter is more oval than round, and is called near-sighted or *myopic*, because it only sees near objects clearly. The retina is so far from the lens in long eyes that a focus of light from distant objects is made before the retinal screen is reached. When the picture is finally thrown upon the nerve-layer, it is illy defined and consequently blurred. Distant objects for such eyes are always befogged, unless the strength of the chrystaline lens is weakened and its focus lengthened by the use of concave or near-sighted glasses. As flat eyes were always congenital, so long eyes may be found at birth. As a rule, however, eyes acquire this condition and become misshaped by too much study in early school life. When an eye, previously good for seeing distant objects, changes shape and becomes near-sighted, the change indicates a yielding of the sclerotic or outer tough coat, which is the sustaining wall of the eye-ball. This is a weakening and diseased condition of the organ, which will eventually be a serious injury if it becomes excessive.

When progressive near-sightedness is found in school-children, in order to check the rapid deterioration in this very valuable organ, rest from eye work becomes a very important factor in the treatment. When the eye-ball is elongated, the cornea retaining its regular outlines, concave spherical glasses correct the defect in the focusing power of the lens and makes vision better; but this aid for distant vision does not make such young and still growing eyes strong or capable of standing abusive work.

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There is still a very important class of misshaped eyes, also starting usually with the very beginning of life. *It is to call attention to the headaches and eye-pains caused by many such eyes that this paper is written.* In this large class of painful eyes the cause of trouble lies in irregularities of curvature of the surface of the cornea. The curvatures of the various meridians differ, as if the eye-ball had been flattened from its sides. In such eyes the misshaped cornea may be represented by the crystal of a watch, which has lost its true spherical form, from irregular pressure upon its edges when the substance of the glass was still soft. The curvatures of the short diameter, corresponding to the direction of pressure must be greater than those of the longer ones, and this must necessarily vary the focus of light passing through these different convex surfaces. In some meridians light may pass through and focus correctly upon the retina; in other directions the focus of transmitted light will be made too rapidly or too tardily, in either case blurring the retinal image and causing defective vision. Whether the cornea border be compressed vertically, horizontally or obliquely, it so changes the surfaces of the cornea for that direction, that however perfectly the other surfaces of the cornea may focus, the faulty curvature acts as if it were a distinct lens of different focal power, and it will cast shadows over the sharply defined picture made by the correct portions of the cornea. This error of refraction is called *astigmatism*, and may be found in long, short or round eyes; hence we find simple or mixed hyperopic or myopic astigmatism. Such irregular corneas are frequently met with. In all such eyes an effort is made automatically to correct this fault by changing the shape of the crystaline lens to correspond with the irregularities in the cornea. Fortunately the lens in young persons is so soft and jelly-like that very little action on the part of the eye muscles corrects the faulty lines of refraction, and a perfect focus is secured. For a time this succeeds well, and comfortable, clear vision is enjoyed, provided the application of the eyes for near work is not too long continued. But unfortunately the lens is hardening steadily with advancing age, and the muscular effort has to be continually increased till it becomes irksome and finally painful. The discomfort produced does not restrict itself to the eyes alone, but diffuses itself over the brow, forehead and temples, causing headache more or less persistent. In some cases the pain invades

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the whole head, back of neck, and even spine. These headaches can always be brought on by eye use. To some very sensitive astigmatic patients eye use refers to their whole waking life. They arise in the morning with comfortable heads, but before they are dressed the headache has been started by the necessary toilet preparations, and increases in severity with the advancing day. Sun-rise and all-day headaches they are, with some of these very susceptible persons, whose eyes see differently for the different curvatures of their cornea.

Every object in nature will radiate light from every exposed surface, and the eye catches some of these rays. Where the cornea is regularly curved light from any and all directions is accurately focused on the retina, and while we see everything perfectly, we are not aware that we have eyes, so painlessly do they function. To the abnormally sensitive astigmatic eye this varied direction of light-beams, transmitted through, and irregularly refracted by, the varied curvatures of the cornea, necessitates nearly a choreic action of the ciliary muscles. From this perpetual changing of focus, now for one part of the cornea and then for another, fatigue of the muscles and pain in the eyes must soon be induced, even to the extent of making sunlight annoying.

This irregular shape of the cornea can be detected if the eye views a drawing similar to a clock dial, traversed by groups of black, radiating lines of equal size and distinctness. By a well formed eye these groups of lines are seen with equal sharpness of outline and of the same degree of blackness. By an astigmatic eye some of these groups of lines are brought out much more boldly than others. While some remain black, others of these black lines may appear gray, and at times even red or blue; and instead of standing out boldly in the group, they run together as if they were one solid line. The faulty lines are always at right angles to those most clearly seen. With the clock dial card, if the lines running from 12 to 6 o'clock are brightest, those from 3 to 9 o'clock will be most blurred. If those from 10 to 4 are the most clearly defined the blurred lines will be in the direction of 1 to 7 o'clock, and so on for any other series of lines. If a cylinder lens be selected, which will make the dull lines as bright as the clear ones, this peculiar eye-glass, when carefully set at the proper angle, will equalize vision, and will remove the discomfort which the use of the eyes had formerly produced.

The ordinary spectacles, worn by the masses, are called spherical

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lenses, being sections of a sphere or ball. Such are the glasses worn by near-sighted and by old persons. The peculiar glasses which correct irregularities of corneal refraction are called cylinder lenses, because they represent a slice of glass taken from the length of a round bar or cylinder. The spherical and cylinder glasses bear the same relation to each other as would an open umbrella to a wagon-top. The cylinder lens has, as it were, a ridge pole over which the curvatures of the lens are made, while the spherical lens curves in all directions from a central point. In the use of cylinder glasses the ridge pole or plain surface is always set in the direction corresponding to the clearest lines of the clock dial, and the curved surfaces of the lens are put necessarily in the direction of the blurred or discolored lines of the dial. Such cylinder glasses alone can give rest to the weary muscles in astigmatic eyes, for without them these irregularly curved eyes cannot secure rest except during sleep.

A very useful law can be laid down for the guidance of physicians in the treatment of their eye-complaining patients, viz: that headaches which come on with the use of the eyes and which disappear during the rest which a night's sleep brings to the weary eyes, do not usually depend upon gastric, hepatic, cerebral, or uterine troubles, as is so commonly believed.

When school-girls from 12 to 18 years of age complain of eyes and head aching, after hours of close application, and are not annoyed in this way during vacations or times of eye rest, inquiry is yet made by the family physician concerning the menstrual functions. Any tardiness in the appearance of this discharge, or any deviation in its amount or frequency from what the physician has established in his own mind as the normal, is deemed too often a sufficient and satisfactory explanation for all the head and eye discomforts. According to their theory, when the monthly discharge becomes regular the head and eye troubles will disappear; but permanent relief does not come as was expected. When young men complain of these identical symptoms of eye pains and headache after hours of study I sometimes wonder why, from professional habit, their menstrual functions should not be also inquired about, for the same explanation might as truthfully be accepted for them.

In this connection I will also say that these eye-headaches, disappearing after sleep, have their origin neither in malaria nor in a bilious derangement, notwithstanding the fact that these terms are

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used every day in connection with them by patients and physicians. Neither quinine, calomel, morphine nor pessaries will prevent this kind of eye headache, although building up the system in feeble persons will help the eye muscles and relieve them. The careful adjustment of proper glasses, by correcting the painful muscular effort, alone will cure them. Rest is a very frequent prescription with physicians for such painful eyes. It will quiet temporarily the pain, but what permanent good can it possibly secure? When upon the use of the eyes the head aches, and when painless heads are made painful by reading, with very few exceptions, it is the abnormal curvatures of the cornea which causes the eye and head pains. How can rest bring about a correction in these faulty curvatures. Might as well expect rest from walking to make a shortened leg grow to the length of the other, as to expect a shorter curve in one direction of the cornea to grow out to the dimensions of the other longer meridians by resting the eyes from reading or sewing. We can readily see the absurdity in the leg suggestion, and yet many physicians do not see that the expectations from the eye rest are equally preposterous.

How many thousands in this country to-day are impatiently and uselessly resting eyes that pain when put to near work, when a pair of properly adjusted spectacles will correct the evil?

Nearly every day I restore some restless patient to his work who had sought in vain relief from eye pains in rest: or I assist some ambitious person, who, having acquired an enviable start in life, feels that his painful eyes have become barriers to further study and prospective promotion. Daily by the use of properly selected glasses I cure headache often of years' duration, and which have resisted every species of medication. In so doing I have often been able to satisfy anxious patients that their brains, stomachs, livers, kidneys or uteri have been accused wrongfully of producing the headaches, and that these have ever been innocent and healthy organs. The following remarks I have frequently heard from patients to whom I had recently prescribed astigmatic glasses: "For one week, ever since I put on the spectacles, I have been free from headache, and it is a freedom that I have not had before for years."

Although most astigmatic eyes cause headache and eye pains, if the eyes are much used in fine work, especially by artificial light, I find cases of faulty refraction from astigmatism in which headache is not, and has never been, an annoying symptom.

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In some astigmatic persons a strong muscular development enables them to conceal the corneal irregularity. Should any disturbance of the system temporarily weaken this muscular power, the eye muscles, along with the other muscles of the body, are weakened and unable to keep up their work, then are pains induced. If it be a bilious or gastric disturbance, its temporary influence over the muscles is mistaken for the actual cause of the headache, when it is only the indirect cause, permitting the latent trouble to become manifest. If the astigmatism did not exist in a concealed form there would be no headache on use of the eyes during these general disturbances.

Again, in nervous persons, especially in females, I have found great suffering about the head and eyes, clearly traceable to a small degree of irregular refraction, and promptly corrected by the constant use of carefully adjusted cylinder lenses.

The report of a case with which I will close this paper is one of unusual severity in effects, although a high degree of astigmatism did not exist. Such extreme discomfort as this lady suffered is fortunately not often found. The case is also peculiar from the length of time that she suffered before her eyes were suspected of being the source of the trouble. In this age of diffusion of medical knowledge by means of many medical journals, physicians are on the alert to distinguish eye headaches from the headaches caused by other organic disturbances, and usually at an early day, invoke the aid of the specialist in eye diseases to remedy the evil. In her own case several years elapsed in testing newspaper remedies for headache, having lost faith in physicians from her earlier medical experiences. The case, however, will illustrate the efficacy of proper glasses in relieving even years of suffering.

Mrs. F., aged 38, the mother of several children, has been a martyr to headaches since childhood; and during the past thirteen years, since her married life, has been often nearly crazy from them. Any close eye work, continued for even a short time, would send her to bed with a raging headache. On an average she has spent one day out of every week in a dark room, and that has been kept up for months at a time. If she felt bright and applied herself to complete any piece of needlework, so necessary with a growing family, she never failed to pay the penalty in severe head and eye suffering. When she came first to my office she frankly told me that she had come because she had been advised, not that she expected any benefit, for she had no faith in any

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curative agent whatever, having years since exhausted them all without finding any relief. She gave me this very clear history of her case: "Dr. A—— has always been my family physician, and in him I have every confidence. Having in my early married life exhausted his skill in vain attempts at relieving me of suffering, he gave up treating me for these headaches many years ago. Under his advice I had consulted Prof. B——; you know him to be one of our leading practitioners. He acknowledged that I had a good family doctor, but thought that something might have been overlooked, and that he hoped to find me a remedy. He varied his medicines, as one after another failed to procure me relief, and finally he advised a visit to the sea-shore. I spent six weeks at Cape May, and while there rested my eyes from all work, eschewing both reading and sewing. I returned home with body invigorated by the salt baths and was free from pain. As soon as I commenced using my eyes in sewing all the old distressing symptoms returned. My family physician and friend, seeing me in some of these terrible attacks, advised me to consult another physician, Prof. C——, who you know has the reputation of being a very skilful physician. He had me under his professional care all winter and spring. Summer found me no better. Any use of the eyes in sewing or reading sent me to bed with twenty-four hours of suffering before me. He finally advised a course of mineral waters, and sent me to the White Sulphur Springs of Virginia. There I spent two months, which improved me much in health. In the fall I returned to Baltimore looking and feeling well. A very few days of house-keeping showed me that the long rest at the springs and the drinking of sulphur waters had brought me no permanent good. My head at times ached as badly as ever. I now despaired of ever getting relief, because I had sought the best medical advice at my command and all to no purpose. Some of my friends, in their anxiety to see me cured of the daily suffering, advised me to try Homœopathy. I accepted the suggestion and sent for Dr. D——. He examined carefully into my case and said that he could cure me. With these assurances from the new physician, my feeling barometer at once went up and my future prospects brightened. I entered actively into the course of medication mapped out by him. I took his mixtures hour by hour, for days and weeks, my faith growing unfortunately less and less with the monotony of the dosing. Finally, as my headaches were not mitigated, even by the long-continued treatment, I gave up all hope and dismissed the homœopathic physician.

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"I felt that my case was now beyond medical cure, and I became despondent and rash. In my anxiety to secure relief, I have tried anything that any one would suggest. I believe that during the last six years I have taken every quack remedy warranted to cure headaches that I could hear of, as published in the newspapers, and my many friends have kept me well supplied with this kind of information. Recently I have heard how Miss E—— has been cured of constant headaches by wearing glasses, and my friends have suggested that I have my eyes examined. On the principle that, in my desire to escape this bodily torment, I have been willing to try every treatment that has been brought to my notice, I have come to have you examine my painful eyes; but I must tell you candidly that I expect no benefit, and have given up all hope of obtaining relief.'

Upon examination I found that she could read the finest print, but only for a few lines. Her distant vision was also acute. Fixing the eyes upon the clock dial trial card, for a short time, caused pain in the head and eyes and also induced a feeling of nausea. I found that she could clearly see the vertical lines of the test card, but only dimly those which were horizontally placed. I selected from the trial case a magnifying lens which would make these blurred lines perfectly clear, for each eye, and finding the corresponding cylinders adjusted them at the proper angle in a trial frame. These I placed before her eyes. To her surprise, not only did all the lines come out with equal boldness of color and of definition, but she found herself able to stare at them without inconvenience. After she had worn the glasses for some minutes, feeling great comfort from them, I removed the frames, when immediately the nausea previously experienced came on. The restoration of the glasses brought back strength of vision and comfort. I prescribed for her the proper cylinder lenses set at an angle of 180° in spectacle frames to be constantly worn. So anxious was she to test these spectacles that on her way home from my office she called at the opticians and remained in the store while the glasses were being fitted to the frames which she had selected. When they were ready she put them on at once and sallied forth. Before getting home she found herself walking with a degree of comfort which she had not known for months.

The rapid improvement commenced from that hour. Her headache disappeared within three weeks by the rest which her eyes enjoyed from the constant wearing of the spectacles. Now she makes her eyes

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do just what she pleases. Her constant headaches are by-gones, and are only remembered from the years of torture through which she had passed. Her face has become bright and free from care as her head is free from pains. Her relief by such apparently simple means, and without medicines, is called a miracle by herself, and is a marvel to her friends. No amount of rest without these cylinder glasses could have effected this cure from suffering. It had been thoroughly tested, and had been found as useless as the many prescriptions with which during many years her body had been drugged. *Cylinder glasses alone could, and they have, cured her.*

SELECTED PAPERS.

THE PLACE OF QUININE IN THE THERAPEUTICS OF TYPHOID FEVER.

By CLEMENT CLEVELAND, A.M., M.D., New York. Read at a meeting of the Practitioners' Society of New York, November 6, 1886.

At the risk of being tedious I have ventured to offer to the Society a few considerations upon this much discussed subject.

I shall be as brief as possible upon theoretical points, and confine myself almost entirely to practical conclusions.

In reading much that has been written upon the treatment of typhoid I have been struck with the unanimity with which the large bulk of writers advocate the use of quinine, some regarding it as a specific in large doses, and others declaring that it has no positive effect, either in shortening, or even in modifying the disease, yet most of them considering it an important factor in the treatment.

Liebermeister says: "My own experience, at least after treating more than fifteen hundred cases with quinine in doses that would have formerly been considered as dangerous to life, gives no results that would indicate any specific influence of the drug over typhoid fever, nor any power to cut the fever short at any stage."

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Farther on he says: "Quinine has often been recommended as a specific in this disease, but has soon been found ineffective and again been dropped. * * * I myself have used it as an antipyretic since 1858, but I never dared to use as large doses as are necessary for a powerful antipyretic effect until after the communications of Vogt. Since then I have hardly treated a severe case of the fever without quinine." He is in the habit of giving from 20 to 45 grains at one dose, and then not repeating it for twenty-four or forty-eight hours.

Niemeyer says, after speaking of the hydro-therapeutic means for reducing temperature: "For moderating the fever in exanthematic, as well as in abdominal typhus, next to the abstraction of heat the administration of quinine deserves most confidence."

Da Costa has abandoned the use of quinine as a specific, though he uses the drug in most of his cases of typhoid.

Loomis does not believe in the efficacy of large doses of quinine in arresting the development of typhoid, but uses it in 30 or 40 grain doses as an antipyretic.

Flint says: "Of drugs which have an antipyretic effect quinine holds the first rank. It should be given in full doses, 20 to 40 grains, before the evening exacerbation. Trials should be made of this drug, inasmuch as, if tolerated by the stomach, it is only objectionable on the score of annoyance from cinchonism."

Reynolds says: "In the absence of cerebral or gastric disturbance quinia is a most valuable remedy for subduing the evening exacerbations."

The above quotations will serve to exemplify the position taken by the majority of writers of the present day who use quinine in typhoid, but deny its specific action. Others, like Stille, maintain that the drug is unnecessary, useless, and often dangerous. I have read quite a number of papers, most of them well-written, upon the effect of quinine in typhoid, by men in different parts of the world, many of whom speak with the most positive conviction of the results they have obtained. I have talked with many physicians upon the subject, the most of whom, I found, use quinine in typhoid—some, to be sure, as a matter of routine, but most with an intelligent reason for so doing. I found, too, that many of them believed they had aborted cases with the drug. Say what we may, the profession, as a whole, has an abiding faith in this medicine in this disease.

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It is a noticeable fact that most of those who do not believe in the abortive effect have drawn their experiences largely from hospital practice, while those who advocate its use as a specific are, in the main, writers who base their belief upon the results of private practice alone. It is well known that, in most hospital cases, the patients have not entered till the disease is well advanced, rarely before the end of the first week, and often not till later, and before entering have been under no sympathetic treatment. It is different in private practice, where the physician usually sees his patient early, and, though it is hardly possible to make a positive diagnosis before the fifth or sixth day, yet he has his suspicions aroused and is able to begin active measures before the typhoid process has made much headway. It is just here that those who believe in the specific action make their strong point, that, to obtain the positive curative effect, it should be given early and in doses sufficiently large to keep the temperature below the danger point. It cannot, of course, be claimed that the statistics of cases reported as aborted are reliable, for they never can be, unless an easy practical way of detecting the typhoid bacillus can be discovered which will enable us to diagnosticate the disease early in its course. What I would urge is this, that, though not susceptible of proof, the conviction that quinine has this abortive power remains firmly fixed in the minds of many, and, moreover, that it is hardly reasonable to suppose that the large number of men who are known to hold this view could be entirely wrong and that there is no basis whatever for their claim.

But may there not be a scientific basis for this belief? The parasitic theory of typhoid is generally admitted; the typhoid bacillus has been found in the blood and the urine of typhoid patients.

Binz says: "In healthy persons and most febrile patients it (quinine) is not decomposed in passing through the blood, but is entirely excreted by the kidneys and bowels. It is only in typhoid that a deficit of twenty-four per cent. has as yet been obtained." About seventy per cent. is excreted by the kidneys alone in from three to twenty-four hours. Quinine has the power of destroying low organic and vegetable life. As it has such a destructive effect upon germ-life outside of the human body, it is probable it has the same effect when taken into the system, especially as so large a

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percentage of it is passed unchanged in the secretions, and must therefore retain its germicide power in passing through the blood.

As quinine is a specific in intermittent fever, and is so by virtue of its power to overcome the vegetable poison that produces it, and we know that it has this power over the organic as well as the vegetable germ, it therefore should have the same effect in some degree in typhoid. And this position is strengthened by the following quotation from Binz, who says: "Those infective poisons which are capable of self-multiplication, after a more or less regular period of incubation, are either rendered by quinine incapable of further development, as in malaria, or have their energy paralyzed, as happens to some extent in typhoid." Now it amounts to the same thing whether these germs are destroyed outright, rendered incapable of further development, or have their energy paralyzed, if this paralysis of energy can be kept up long enough for nature to eliminate them, as she makes a brave struggle to do, and succeeds in doing in those cases that recover.

My own position is this: I believe in the power of quinine to abort some cases of typhoid, to shorten the duration of others, and to ameliorate the symptoms of most. I have seen the effect too often to have any lingering doubt about it. I believe, too, that the time is coming when this will be universally acknowledged. This will be when the detection of the typhoid bacillus enables us to attack the cause of trouble early in its progress.

To be successful the drug must be used boldly. In giving large doses we are of course in danger of over-stepping the therapeutic effect and obtaining the toxic. But we are in the same danger with opium. We know perfectly the signs and symptoms of the toxic effect of that drug. We ought to know as well those of quinine. Like opium, quinine is capable of producing death, but enormous doses are necessary. As with opium, we should know by the symptoms how far to push it. Experience has taught that 180 grains, given in one dose, *may* produce death. Five ounces, 2,460 grains, taken in a period of ten days, *has* caused death. That would allow an average of 460 grains for the twenty-four hours. But there is no one who, in his wildest dreams, would think of giving 180 grains at a dose, or a daily dosage of 460 grains.

In regard to the tolerance of the drug, I believe there are very few people who cannot take it in the early days of the fever. In

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the first ten days, before the mucous-membrane has undergone changes due to the typhoid process and the functions of liver and kidneys have been disturbed thereby, there are comparatively few who do not bear the drug well.

It is important to begin with quinine early, and not to wait to be absolutely sure of diagnosis. My own plan is to begin with a large test-dose, of 5 to 10 grains, given every fifteen minutes for two hours, as the nature of the case presents itself to my mind. This dose is given in the latter part of the afternoon. The temperature is taken every two hours. If by morning there has been a decided lowering of the temperature, I feel encouraged to believe that it is a case manageable by quinine, and particularly so if it is accompanied by profuse swearing.

As quinine is eliminated so rapidly and in such large quantities, I believe it better to give it continuously, in order to keep the system constantly under its influence. Following out this theory, instead of giving it once a day in a large dose, I then give 5 or 10 grains every two or three hours. If by seventy-two hours no decided effect is produced upon the temperature, I discontinue the use of quinine entirely, or give it merely in tonic doses. If by seventy-two hours it has not reduced the temperature, I believe it never will.

I have not found it necessary, in the cases where I have used quinine, to give more than 80 grains in the twenty-four hours, and rarely more than 60, while 40 grains is all that has been required in some. It is important to bear in mind that giving a large amount, 60 grains for instance, distributed in 5-grain doses, throughout the course of twenty-four hours, is not the same as giving that amount at one dose. By the time the last 5 grains are given, fully three-fourths of the whole have passed out of the body in the secretions.

In all cases I use sponging, not for the antipyretic effect, but for the sake of keeping the skin clean and active.

In a case during the past year, in a young lady of eighteen, I gave 5 grains of quinine every two hours, now and then stopping it for a shorter or a longer period to note the effect upon the temperature. As long as the quinine was given every two hours the temperature would remain nearly normal, but just as soon as I *let up* on *quinine*, up would run the temperature. On the tenth day, being a little uneasy from the apparent effect upon the heart, the

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patient having taken an average of 60 grains a day for nine days, I stopped the quinine. In the *afternoon* the temperature went above 103°, and also on the next day. For these two days I used antipyrin to reduce the temperature. On the twelfth day I returned to quinine in the same doses, not being satisfied with the antipyrin, and because I had more faith in the quinine. The temperature went down at once, and did not run up again after the fifteenth day, when I began to lengthen the intervals between the doses an hour or more each day. The disease was then practically at an end, but I continued to use the quinine for two weeks longer in small doses. This case serves to illustrate the experience I have had with a number of others.

Again, I had been treating for ten days a case of typhoid with aromitic sulphuric acid and other remedies, *pro re rata*, where nearly every symptom of the disease was present, when, as matters were going from bad to worse, I decided to give quinine, and gave 5-grain doses every two hours with the happiest results. The whole condition changed for the better within twenty-four hours. Every symptom was ameliorated. The diarrhœa, which was constant and characteristic, began to decrease at once. The patient looked better and felt better. Within a week she was convalescent. This case is not unique in my experience. I mention these two cases because they were severe and unquestionably typhoid; and the latter I speak of particularly, to emphasize the point that quinine will sometimes shorten the duration of typhoid, even after the tenth day.

I can recall a number of cases in families where typhoid existed and subjected to the same influences, where, but for the timely administration of quinine, I believe positive typhoid symptoms would have developed. I believe it is in this stage, the stage of so-called incubation, when the typhoid germs are said to be in an inactive state, that the drug will yet be found to accomplish its greatest work in the way of prophylaxis.

One other point I have observed is, that typhoid patients in whom quinine acts well not only recover more rapidly, but are more likely to recover permanently, or have less of the disagreeable after-effects of the disease. Statistics, if they show anything, show that the expectant plan of treatment gives a much higher death-rate than where quinine forms an important element in the treatment.

In this short paper I have attempted to express what seems to be,

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from all I am able to learn, the feeling of many in the profession regarding the use of quinine in typhoid fever, and to give some of the apparent reasons why, it appears to me, it holds, and must continue to hold, an important place in the therapeutics of that disease.

DISCUSSION.

The paper being open for discussion, Dr. A. Brayton Ball said that he did not see how the argument regarding the destructive effect of quinine on the germs of fever could be made to apply to typhoid fever. If it is based on the ground that it destroys germs of all kinds, then it ought to destroy those of small-pox, measles and other infectious diseases caused by a bacillus. But theories regarding the point were, after all, of no value. His experience with quinine was unsatisfactory. He had given it up long ago in the treatment of typhoid fever. As an antipyretic we have better drugs, and he only used quinine as a bitter tonic in period of convalescence.

As regards aborting typhoid fever, he did not see how that could be proved. In every epidemic of typhoid there is a large number of cases that abort themselves, so to speak. It is a matter of every-day hospital experience to find cases brought in with more or less of the symptoms of typhoid fever and run a course anywhere from five to ten or fifteen days. The pathology of these cases is obscure; they are not typical cases of typhoid, and perhaps had better be called simple continued fever. But the fact that they occur in epidemics of typhoid fever, and in families where there is typhoid, makes it pretty clear that they are only mild cases of that disease that abort themselves. It is a very difficult thing to make a diagnosis of typhoid fever until the patient has been sick for a number of days.

Dr. E. D. Hudson said that until four years ago he was a firm believer in the use of quinine in typhoid fever. He made the effort with it to secure an antipyretic effect, and he also employed it to influence the general course of the disease.

Lately his experience had led him to believe that quinine is not an essential part of the treatment. He, however, still employed it early in the disease for its antipyretic effect, and also after the third week for the purpose of securing a more rapid convalescence. But during the second and third weeks, when the nature of the fever is

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established, the drug is not of any material value, and in some instances it is positively injurious. In the early stage of the disease, before a positive diagnosis is possible, quinine should be given, because there may be a malarial element present.

Dr. Hudson approved of giving quinine in large doses at the outset of the disease, and associating it with a cholagogue cathartic. He had never seen cases treated heroically with quinine, that appeared to be shortened in their course, though he thought that quinine might shorten the convalescence. With reference to

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he had seen patients who had been treated thoroughly with quinine, but in whom a relapse occurred. This was another argument against quinine having any specific effect. He had been astonished to see in patients in the hospitals, with all their unfavorable surroundings, pretty uniformly good results as compared with patients in private practice, who had everything possible done for their comfort and cure.

On the whole, he thought that except for the occasional use of antipyretics, it was well not to use drugs too much in typhoid fever. He had seen some very remarkable illustrations of the advantage of keeping to a strictly milk diet.

Dr. Beverley Robinson agreed substantially with what Dr. Ball and Dr. Hudson had said, viz: that quinine did not have any special influence over the course of the disease. A case was cited of typhoid fever, then under the speaker's care, in which he was sure that death was to occur, and not from any special complication or high fever, but because the fever seemed to have attacked the heart and enfeebled it. No drugs seemed to have any effect in such cases as this. The patient had never had any marked rise of temperature, so that it was not the febrile heart that produced the cardiac weakness.

The speaker was opposed personally to the use of any drug unless the temperature was very high. If the temperature was 104°, it was simply part of the disease, and unless the patient were adynamic he would not treat the symptom. If he had typhoid fever himself he would not allow anyone to give him a drachm of quinine daily any more than he would allow it when he was well. When quinine caused a lowering of temperature, it did it only by depress-

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ing the circulation. He thought that the expectant plan was the only rational method of treating typhoid fever. He did not think that statistics regarding its treatment were of any value whatever. At some places and times the fever ran a very adynamic course, in other places not at all so.

Dr. Robinson believed that the

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in typhoid fever occurred without any reference to the high temperature. He had some doubts about the value of digitalis, when the heart was affected, in these cases. You might use diffusible stimulants, but in giving digitalis one might whet up a good fibre, but make the poorer fibres still more weak. In conclusion, the speaker reiterated his belief that the only rational way to treat typhoid fever was by the expectant plan—no specific treatment, no antipyretic treatment.

Dr. F. P. Kinnicutt also believed in the expectant plan of treating typhoid fever, and he thought that this plan gave the best results.

In reference to the statement that the mortality from typhoid was less under the quinine treatment, it seemed to him that it would require a very large number of statistics to prove this. He had not seen the statistics in reference to this point.

Dr. Kinnicutt had been accustomed to use quinine in large doses a number of years ago, but he had never felt quite safe in using it, and he had given it up of late. Experiments had shown that it undoubtedly had a depressant effect on the heart in large doses. He usually gave quinine in the early stages of the fever, but even when he had given it in large doses he had never seen any abortant effect.

Dr. Henry F. Walker was accustomed also to give quinine in considerable doses until the diagnosis was made. When he was sure that it was typhoid fever, with no malarial complication, he ceased to use it. He thought that there was sometimes a malarial element all through the course of the typhoid. He cited also an interesting case of a patient who had typhoid, which ran its usual course, not showing any malarial complication until the period of convalescence set in, when the patient developed intermittent fever of a distinct type.

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Dr. C. L. Dana said that he had also abandoned the routine use of quinine in typhoid fever, and followed the expectant plan. It was a matter of some interest to note the change of practice in the hospitals regarding this point. At Bellevue ten years ago quinine was in most wards regularly given in all cases of typhoid. Now its use was abandoned as a rule; antipyretics of various kinds were given occasionally, but the treatment was mainly symptomatic and expectant. If there had been any manifest advantage in the quinine treatment it would doubtless not have been so completely dropped. The speaker thought that even in cases where there is a manifest malarial element, quinine did not produce much effect on the course of the disease.

Dr. George L. Peabody did not think that quinine was a desirable thing to use in typhoid fever. He did not think that it had any tonic influence in small doses, any more than would be obtained by any simple bitter. Its effect in large doses he did not think was good. He had never seen it do any harm to the heart, although he thought that it might do so, and even to a strong heart, if the doses were heroic. He had never seen it abort the fever, although several years ago he had given it for that purpose. It was very difficult to prove that cases of typhoid fever had been aborted, but he thought that he had succeeded in some cases last summer by the use of naphthaline. Five grains of this every two hours disinfects the intestinal canal. In two cases in which it was given the characteristic symptoms of the disease were well marked, including the eruption and enlarged spleen. In these the fever seemed to decline rapidly under the naphthaline; in two other cases it had no obvious effect. Most of his cases came under observation too late for the application of the treatment. Dr. Peabody was rather of the opinion that the drift of modern writers was against the use of quinine.

Dr. J. B. Hunter said that he was under the impression that the use of quinine in typhoid was very generally abandoned. He had had a very considerable experience with it during the war. On one occasion it had been found advisable not to give quinine to the typhoid patients on account of the difficulty of getting it. The patients seemed to do just as well without it.

Dr. A. A. Smith said that some three or four years ago he placed himself on record as believing, not only that quinine was not of

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much service in typhoid fever, but that it did harm, particularly in its effect as a cardiac depressant. He did not think that quinine in antipyretic doses was a safe thing to give after the second week. He followed the same plan as the others, of giving it in the first week.

Dr. Hudson referred to a case then under treatment in which antipyrin had been used with unfavorable effect. Quinine being substituted, the patient did much better.

Dr. Cleveland said that he was himself conservative in the matter of giving quinine. He thought that it produced its best effects in the early stage of the disease, and he hesitated to give it in large doses throughout the whole course. He was sure, however, that he had seen favorable effects follow its administration, and he believed that in some cases he had seen it abort the disease. Others had reported a similar experience. He believed that it acted more as a germicide than as an antipyretic, although he did not claim that it destroyed the parasite, but that it probably had an influence in inhibiting its activity. It might have this effect on the parasite of typhoid without affecting that of measles or small-pox; and it was with this view that he would present in answer to the criticism that if it acted as a germicide to one disease, it ought to do the same to that of all other infectious fevers.—*Medical Record.*

Sounding Pregnant Uterus.—Before the St. Louis Medical Society, Dr. Hulbert related an instance to illustrate the immense amount of abuse a pregnant uterus may stand. A woman was admitted to the Female Hospital with uterine trouble, who, amongst other things, had been subjected to the introduction of the uterine sound. She was insane, her delusion being that she was extremely filthy. Her husband declared that she could not be pregnant. An examination disclosed a large bilateral laceration of the cervix. After waiting one month, the doctor was satisfied that she was not pregnant, and with a hope that a cure of the lacerated cervix might cure her insanity, he operated, denuding freely, and passing a sound several times into the uterus. He introduced ten sutures. In ten days he removed the sutures, finding a very satisfactory union. In eight days more, the eighteenth after the operation, the patient aborted, and was safely delivered of a fœtus of three months.—*Medical and Surgical Reporter.*

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THE TREATMENT OF RHEUMATISM IN THE PHILADELPHIA HOSPITALS.

HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

Dr. Osler employs in mild cases, with only one or two joints involved and the temperature not above 102° F., the citrate of potash in 3ss doses every four hours. If there is much pain and the patient is restless, Dover's powder grs. x at night. In more severe attacks, with polyarthritis, and fever above 103°, he orders salicylate of sodium grs. xv every two hours, with a similar quantity of the citrate of potash. The important influence of the salicylate is believed to be in the reduction of the pain and fever. It is not thought to have much influence in lessening the duration of the disease; and, on the other hand, when pushed for many days and in large doses, it is thought directly to favor the occurrence of relapse. Hence, as soon as the pain is relieved, the amount of the salt is reduced, and it is stopped as soon as possible. It does not probably influence, one way or the other, the occurrence of endocarditis. When the temperature is above 103.5° antipyrin, grs. 20, is ordered. With fever of 105° the cold pack is employed. Lemonade and carbonated waters are allowed freely. An unstimulating liquid diet is given. Blankets are preferred for the bedding of the patient. Special care is enjoined in changing the clothing, and a wad of cotton-wool is placed over the front of the chest. The joints are wrapped in cotton-wool, or, when very painful, in spongiopiline, or flannel, soaked in Fuller's lotion (hot) (Liquor Opii Sedativus, ℥j; Potass. Bicarb., 3iv; Glycerin., ℥ij; Aquæ, ℥ix). If the salicylate and the local application fail, as they sometimes do, to relieve pain, opium is freely given. During convalescence iron and tonic doses of quinine are ordered.

JEFFERSON COLLEGE HOSPITAL.

Dr. DaCosta treats his cases of acute rheumatic fever, as a rule, with salicylic acid, about a drachm in twenty-four hours; he does this especially in the cases of active, frank character, in which the joint affection is decided. Where marked cardiac complications exist, he

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greatly prefers the alkaline plan of treatment; indeed, has little faith in the use of salicylic acid either to prevent cardiac complications or to remove them. Nor does he, in any case, continue salicylic acid or the salicylates if no impression is made on the rheumatic malady in three or four days. When the remedy does good at all, his experience is that it does good quickly.

In cases of acute or subacute muscular rheumatism, or in subacute articular rheumatism with much pain and only moderate swelling of the joints, he often employs bromide of ammonium, or, if this fail, nitrate of potassium. He uses opium sparingly, and generally confines it to a moderate dose or two of Dover's powder, given at night.

He strongly insists, no matter what plan of treatment be adopted, on the addition of quinine, from 12 to 16 grains daily, as soon as the more active symptoms have subsided, believing that thereby the patient's strength is sustained and relapses prevented.

From tincture of chloride of iron he has seen no good, except in pyæmic rheumatism or in kindred forms of rheumatism.

Locally, he uses little, enveloping the swollen joints, if very painful, in a thin layer of cotton-wool; where the joints are very much swollen he envelops them in cloths wrung out in a strong solution of nitrate of potassium, with morphia added.

The diet is always bland and unstimulating, chiefly milk, farinaceous substances, and very moderate amounts of broths, eggs and fish. Alcohol is not given except in the so-called "typhoid cases," in which also high temperature is generally found.

Dr. Roberts Bartholomew finds that the cases which come under his observation may be divided into three types: The robust nervo-muscular subject, often having a distinctly hereditary tendency to the occurrence of rheumatic inflammation; the obese, beer-drinking subject; and the pale, anæmic, feeble subject, most frequently female, living under unfavorable hygienic conditions, and leading a close sedentary life.

His choice of remedies for these three classes of rheumatic subjects, when the seizure has actually occurred, is confined to the salicyl compounds for the nervo-muscular type, to alkalies and tincture of iron in the obese type, and to tincture of iron in the anæmic. The recent additions to our knowledge of the good effects of antipyrin in acute rheumatism incline him to its use in place of salicin and salicylic acid, and for the hyperpyrexia in any of the cases. Although he cannot

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agree with those enthusiasts who regard antipyrin as a specific in rheumatism, he cannot overlook the good effects obtained from it in appropriate cases—especially in the neuro-muscular group. As the disease manifests a tendency to relapse the earlier and the more abruptly defervescence and cessation of pain take place, he keeps up the use of the remedies for several days after all morbid manifestations have ceased. With these remedies he combines, *pro re nata*, quinine, morphine, and, more particularly, blisters in the neighborhood of the affected joints.

In the obese, beer-drinking type of rheumatics, the use of alkalies, or the combined alkaline and quinine treatment as advocated by Fuller, appears to him to be most efficacious during the existence of the acuter manifestations. When these have distinctly subsided, the tincture of iron freely administered becomes the most important remedy, and will do more than any other to prevent recurrences, which are particularly apt to take place in this type. Furthermore, the acute rheumatism of these obese subjects manifests a certain sluggishness of disposition, so to speak, and slowly glides into the subacute and chronic forms. Until he learned the value of tincture of iron in these cases, he had to observe this tendency of the malady only too often.

For the third group of rheumatic cases he uses the tincture of iron with excellent results. The anæmia, the depression of the bodily forces, and the exquisite sensibility characteristic of this type, are conditions generally improved by iron; but as no other preparation manifests the same power in acute rheumatism, there must be a special action due to the hydrochloric acid in the combination. This view is the more probable, since the mineral acids have themselves been used successfully in the treatment of this disease.

The blister treatment, which has alone accomplished excellent results, may well be combined with any other special plan.

Whatever mode of treatment has been pursued, he finds it necessary to keep it up, somewhat modified as to quantity, for several days after the apparent cessation of the systemic and local disturbance.

PENNSYLVANIA HOSPITAL.

Dr. Morris Longstreth, in cases of decided articular manifestations and high temperature, orders salicylic acid to be given in 10-grain

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doses every hour until six doses are given, i. e., a drachm every twenty-four hours. The salicylic acid is given with the object of reducing the temperature, and the quantity and frequency of the dose are proportioned carefully to the end to be attained. In the large majority of cases it is successful. The temperature and with it the the frequency of the heart's action, diminishes. Cardiac complications, endo- and peri-carditis do not seem to contraindicate its employment or its continued use. Occasional cases present themselves in which great depression of the heart follows the employment of the drug in large doses, even without evident inflammatory cardiac complications. In such cases other medication must be employed; and occasionally restoratives have been required to overcome its effects. Usually its use is continued for one or more days after the subsidence of the temperature, in much reduced doses and at longer intervals.

In cases in which salicylic acid fails of its usual effect, or in cases with great anæmia or previous debility, salicin has been found very useful. It has been given in 15-grain doses four times a day. Its administration in smaller doses is often continued during convalescence, either alone or in connection with iron or other tonics.

The alkaline treatment Dr. Longstreth resorts to less frequently. When employed, bicarbonate and citrate of potash, in equal proportions, are given in divided doses to the amount of one ounce daily.

Quinine and tr. ferri chloridi seem to be demanded during convalescence in nearly all the cases. The disordered digestive functions, evidenced by coated tongue and sluggish bowels, seem to be most favorably and promptly aided by the administration of some small doses of calomel, gr. 1-12, with bicarbonate of soda, gr. iij, given at frequent intervals during one or two days.

Locally, to the affected joints, three modes of treatment have been found of service. Joints hot and tense are covered with cloths wet with lead-water and laudanum, equal parts, and enveloped with waxed paper or gutta-percha sheeting. In some cases the local application of a saturated solution of bicarbonate of soda is useful; sometimes the impermeable sheeting is omitted from the dressing—coolness from evaporation being more comforting than

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the heat. In other cases the joints are enveloped in cotton, with or without the covering.

Cold-water sponging or packing is employed in cases of high temperature with delirium. Antipyrin has been employed in some of these cases, but without good results. Morphia or opium is always used as required.

PHILADELPHIA HOSPITAL.

Dr. James Tyson uses both salicylic acid and salicylate of sodium, but recently has confined himself rather more to the former. He gives it preferably in the form of a compressed 5-grain pill, of which two are ordered every two hours until the symptoms yield. This is generally within twelve hours, and almost always within twenty-four. After the pain has decidedly subsided he diminishes the dose one-half or increases the interval to four hours. If the administration is cautiously continued for a week or ten days, he finds that it is comparatively seldom that relapses occur. Sequelæ and complications are less frequent by this than by the older methods of treatment. It is comparatively seldom that anodynes are required as adjuncts to relieve the pain, but when they are, the hypodermatic use of morphia is promptly efficient.

In giving the salicylate of sodium, he prescribes 10 to 15 grains every two hours, or half as much every hour until relief is obtained. Its sickening taste in solution is a great drawback to its use, but it, too may be given in 5-grain compressed pills, although the larger bulk makes this method of administration inconvenient.

When salicylic acid or its salts fail, he finds that flying blisters to the painful joints are the next most efficient measure, and their effect upon the pain is usually very prompt.

Dyscrasic cases are, of course, treated with iron, quinine and an abundance of nourishing food, and flannel garments worn next to the skin.

In muscular rheumatism salicylic acid is seldom efficient, although Dr. Tyson often uses it with results which lead him to believe that it is not totally without effect. By far the most satisfactory measure is dry heat, applied most conveniently by the hot-water bag.

In the treatment of chronic rheumatism Dr. Tyson has much more confidence in the use of local measures and manipulation. Salicylic

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acid is also sometimes useful, but the effect is more frequently temporary.

Dyscrasic conditions are treated with cod liver oil and iron, which alone are sometimes curative. Counter-irritation by blisters and strong liniments are sometimes useful adjuncts, but are in no degree equal to manipulation.

Dr. J. C. Wilson has, during the past three years, used in acute rheumatism a mixed treatment, consisting of sodium salicylate in combination with sodium bicarbonate or sodium acetate. The formula commonly employed is as follows:

℞.—Sodii salicylatis..... gr. xv.
Sodii bicarbonatis..... gr. xxx.
Aqua menth. pip..... ℥ ss.—M.
To be taken every third or fourth hour.

This dose is increased or diminished in accordance with the intensity of the pyrexia, the acuteness of the joint pains and the condition of the heart, in individual cases. After the reaction of the urine becomes distinctly alkaline under this treatment, the sodium bicarbonate is stopped and the salicylate continued alone at gradually increasing intervals until the pains and fever have wholly ceased. The administration of iron then follows, usually in the form of Basham's mixture, the mistura ferri et ammonii acetatis, U. S. P.

Dr. Wilson regards this method as quite equal to the treatment by salicylic acid, the sodium salicylate alone or by salicin, as regards the rapidity with which the pain is relieved and the fever controlled, and as much superior to them in the diminished danger of producing the toxic effects of large doses of the salicylates, especially cardiac depression, epistaxis, tinnitus, headache and maniacal excitement—phenomena which are very seldom observed, if we except slight ringing in the ears, under this plan of treatment.

The diet consists chiefly of milk; light broths are, however, occasionally permitted, to which, with beginning convalescence, are added bread, rice, custards, etc. Alcohol in any form or dose is scarcely ever given, except in emergencies, and forms no part of the treatment even during the convalescence.

Serious heart complications developed under observation in the wards are comparatively infrequent, and relapses not very common.

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In view of the frequency of recognizable cardiac lesions, especially in young subjects, and of the probability that some degree of implication of the valvular endocardium, not sufficient to manifest itself by satisfactory auscultatory signs, may be present in many cases, in which murmurs are not present, the patients, when practicable, are kept in bed for ten days or two weeks after the complete subsidence of the acute symptoms. The valves of the heart are thus saved wear and tear, the danger of relapse is greatly lessened, and the rebuilding of the blood hastened.

If, despite the steady use of iron in full doses, the anæmia persists, arsenic is given in small but gradually increasing doses, usually with good effect.—*Medical News.*

REPORT OF CASES ILLUSTRATING THE GREAT CONTAGIOUSNESS OF SCARLET FEVER.

By Boardman Reed, M.D., of Atlantic City, N. J., formerly Physician to the Mercer Memorial House for Invalid Women.

The science of medicine is not yet completed, and it is the bounden duty of every physician to report cases which may assist in the determination of mooted questions. The paper read by Dr. Arthur V. Meigs, on "The Contagiousness of Scarlet Fever," at a recent meeting of the Philadelphia County Medical Society, raised a question of the utmost practical importance. It was an able and elaborate presentation of views which have long been held by some experienced physicians—views which from time to time have been set forth with more or less cogency in medical literature.

Dr. Meigs contends that scarlet fever is by no means so contagious "as is commonly reported, and very much less so than measles and whooping-cough, and some of the other common contagious maladies." The ten cases cited by him certainly show that the contagium of scarlet fever is less volatile than that of measles and whooping-cough, and less likely to pervade an entire house. In one of his cases, moreover, there was an exposure of two children to the disease for some hours after the rash appeared, without

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its being taken. I have seen similar cases where one child in a family having been taken with scarlet fever, the other children, who had been with the sick one till shortly after the rash appeared, were isolated and kept in another part of the house till a month or more after convalescence was established, and then allowed to associate again with the convalescent without contracting the disease. In these cases, however, the greatest pains were taken to destroy or thoroughly disinfect every article of every description which had been in the sick-room. The convalescent children were bathed, their heads shampooed, and they themselves taken daily out into the air for a week before being permitted to mingle again with the other children. Without these extraordinary precautions my experience teaches that even a month's separation is no guarantee against the contagion.

Most of the authorities on the diseases of children refer particularly to the lack of volatility of the scarlet fever poison. It is an established fact that it is usually necessary to be quite near a case of the disease in order to contract it. It is getting to be pretty well settled, also, that scarlet fever is less contagious previous to the coming out of the rash than afterward. Probably the same is true of most of the eruptive fevers.

Granting all this, and granting, also, that adults rarely take scarlet fever, while the older children of a family sometimes—though certainly very exceptionally—escape after complete exposure during the height or decline of an attack, I must still insist on considering this one of the most contagious, as well as the most treacherous and dangerous of the exanthemata. What its contagious principle lacks in volatility it makes up in persistency and indestructibility. It has been known to remain for years in articles of clothing without losing its virulence. Even the comparative insusceptibility of the middle period of life is not a sure protection against it, provided the exposure is frequent or long-continued.

The following case strikingly illustrates the certain contagiousness of scarlet fever when neither isolation nor other preventive measures are practised :

Case 1.—In the summer of 1879 a few cases of scarlatina occurred in one of the public schools of Atlantic City. In a poor family, consisting of father, mother and six children, the oldest, a girl of ten years, contracted the disease. She was put to bed in the upper

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room of a two-roomed dwelling in which the entire family slept. One after another, at intervals of two to five days, all the children were attacked. Finally the mother, who had nursed them night and day, contracted the fever. The father, who had previously been out at work during the day, though sleeping in the one bedroom with the sick ones at night, escaped till the last; but having then to take the mother's place as nurse, and hold one or other of the sick children on his lap, he could not longer resist the concentrated contagion at such close quarters, and himself came down with the disease. None of the cases were malignant, and all recovered.

The following is one of several cases closely resembling each other which have occurred in my practice:

Case 2.—One of a family of two children had scarlet fever in Philadelphia. The other child was kept away until an entire month after convalescence was established. Then both children were brought to a boarding-house in Atlantic City, and allowed to occupy the same room. Within a few days the other child was attacked, when, as is the custom here, the entire party was obliged to remove at once to a private cottage. The greatest care was used in disinfection, and the disease did not spread any further.

Owing to the regulation enforced by all hotel proprietors at this resort, that guests who develop any contagious disease must be immediately removed, I have never, except in the following instances, known any such diseases to be contracted from other cases in a hotel here. Whooping-cough cases are sometimes permitted to remain in the smaller boarding-houses, but never in the hotels or more important hostelries. It is significant as to the contagiousness of scarlet fever that these only exceptions (described below) were of that disease.

Case 3.—A child brought from a neighboring city to a hotel here developed a severe and typical attack of scarlet fever on the night of its arrival. I saw it the next morning, and advised that it be immediately quarantined in a cottage. Instead, the family took it home, where it died the next day. The room occupied by it was disinfected, but perhaps not with sufficient thoroughness. Some two weeks later a child arrived from another city, and by accident was assigned to the same room. Within twenty-four hours it was seized with high fever, rapid pulse, vomiting and acute inflamma-

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tion of the fauces. No rash had yet appeared when my visit was made; but, anticipating scarlet fever, I again advised removal to a cottage. The parents, against my protest, returned home with the child. A diagnosis of diphtheria was there made, and death resulted in two or three days. There had been no diphtheria in the house, and, considering the circumstances, it seems to me at least probable that this was a case of scarlatina without rash. The room was now thoroughly disinfected, and no other children were permitted to occupy it for several months. About the same time a family with two children were occupying a room on the same floor, and nearly opposite the one just referred to. Within a week after the last case mentioned one of these children was attacked with scarlet fever, and the family then promptly removed to a cottage. The child did well, recovering in due time. The other child occupied a different room after the transfer, but by the end of a week was taken with slight fever and sore throat, evidently scarlatinous, but had no rash. There had been no other cases in the hotel, and, though this was several years ago, there have not been, to my knowledge, any cases in it since, either of diphtheria or of scarlet fever.

In view of the above facts, I submit that physicians cannot be too careful in guarding against the spread of scarlet fever. On account of its frequently malignant and deadly character, as well as the serious complications and sequelæ which so often afflict children that do not die of it outright, it is certainly to be dreaded more than any other disease of childhood. Therefore, admitting that it is somewhat less contagious upon slight exposure, or at a distance, than some other diseases, let us nevertheless inculcate greater rather than less stringency in quarantining against it.—*Medical News.*

WATER AND FEVER PATIENTS.—Dr. Glax, as the result of observations made by him, concludes that the imbibition of water, especially cold water, by fever patients, causes the temperature to rise. The water taken abundantly is not excreted in proportionate amount, but accumulates. With defervescence the water passes off rapidly. Herr Glax will not convince physicians that the old, dry method of treating fevers should be adopted again.—*Med. Record.*

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ANTIPERIODIC EFFECTS OF QUININE.

Scientific therapeutics is something like a family flour-barrel: everybody goes to it and everybody gives it a kick. Very frequently, however, the cause of the grumbling lies not with the investigator of physiological therapeutics so much as with the pathologist. In many cases practical therapeutics outrun pathology, and the results which we obtain at the bedside by the use of remedies cannot be explained, because the pathologist is unable to explain the rationale of the disease.

The antiperiodic property of quinine has long been an absolute mystery, which has baffled every attempt of the scientific therapeutist to solve. It looks now as though the problem would be an uneasy one when the pathologist has done his work. The recent studies made at the Philadelphia Hospital by Professor Osler strongly strengthen the probability that the cause of intermittent fever is an infusorium in the blood, as first noticed by Thomasi Crudelli. Professor Osler has examined some forty odd cases, and, with scarcely an exception, has found the creature in one of its three forms, either as a flagellate living body, moving about the red blood-corpuscles and scattering them hither and thither, or a quite crescentic-shaped body, or an amœboid form living in the red blood-corpuscles, and apparently destroying them.

In one or two cases in which the diagnosis founded upon the symptoms was very doubtful, Dr. Osler was able to decide the nature of the case by finding these creatures in the blood of the patient. In all of such cases quinine produced rapid amelioration. Quinine acts as a powerful toxic agent upon many of the lower forms of life, and the theory must at once suggest itself to every mind that it cures intermittent by destroying the germs to which the fever is due. We do not know of any direct experiments upon these infusoria with quinine, but certainly such studies are urgently demanded. Professor Osler has found that the cure of the intermittent by quinine is followed by the disappearance from the blood of the infusoria; such disappearance not, however, being rapid, but gradual. No one has yet succeeded in growing the infusoria outside of the human body.

Although the suggestions which have been put forth in this note

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still belong in the category of speculation, there is enough foundation of ascertained fact to stimulate very greatly the study of the matter by those who are situated in highly malarial districts.—*Therapeutic Gazette.*

BROMIDE OF ETHYL.

In a recent number of *Science* there is recorded in detail a death which recently occurred in Brooklyn or New York from the use of bromide of ethyl by a dentist. The rapidity of action and the general comfortableness of the bromide as an anæsthetic, leads every now and then to its being recommended by some one, and to its still being used to some extent.

When it was first actively proposed as an anæsthetic it was carefully investigated by Dr. H. C. Wood, who, as the result of his experimentations on the lower animals, arrived at the conclusion that it acts like chloroform on the heart, and that it would be a more dangerous anæsthetic than chloroform. Within a very few days after the publication of Dr. Wood's paper a case was reported in which death from cardiac failure was averted with the greatest difficulty, and only a few weeks later a fatal anæsthesia was put on record. Since that time there have been several deaths from the use of bromide of ethyl. Those, too, in spite of the general abandonment of it.

There is probably no anæsthetic which has ever been used to any extent that has as high a mortality rate as has the bromide of ethyl. The advantages which it possesses over chloroform are so slight as to be of no importance. We do not think the habitual use of chloroform as an anæsthetic is justifiable, but certainly it is much better to employ it than to venture the dangers of the bromide.—*Therapeutic Gazette.*

It was indeed an ingenious physician who traced the cause of a case of lead poisoning to the patient's habit of holding a *lead*-pencil in the mouth. But then the patient did not know that lead-pencils do not contain lead.—*American Druggist.*

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., " } Editors.

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* THE CAROLINAS. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* JOURNAL, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* THOMAS F. WOOD, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

THE DOCTOR'S PLACE IN THE COMMUNITY.

The address of Dr. S. Weir Mitchell, at the Centennial Anniversary of the College of Physicians of Philadelphia, is so full of fine thoughts and suggestive ideas that we have reprinted much of it elsewhere. The lesson which grows out of the history of the profession of medicine in the city of Philadelphia, where it has always exercised an influence unknown to an equal degree elsewhere, is the need for more self-assertion and more intimate connection on the part of the physician with the interests of all sorts that are involving the welfare of the communities in which they live. The frequent changes that occur in the opinions of the doctor, as he

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seeks to keep apace with the tide of thought that is always rapidly rising, makes him too much the servant of his profession to the exclusion, largely, of all other thoughts and schemes that should demand at least some of his time and influence. He cannot divorce himself from the manifold concerns of the community in which he lives, without divesting himself of much of the influence which his position as a physician would, with care, ensure for him. Nor can he maintain his place as a physician unless he is conversant, in a measure, with the social and commercial world, as well as alive to the workings of disease in the sick bodies of those people whose every-day life he must study and know. There must be a manifest interest on the part of the doctor in the welfare of the public, if he will claim to be a guide for their actions in days of bodily distress. There is no need that he shall sacrifice his time to be thus a participant in the general affairs of the laity—no need that he should enter the marts of trade or the turmoils of politics, but he must not be an uninterested outsider, one unwilling to do his full share to push forward all schemes that will advance the cause of education and promote social purity, as well as serve as a safe counselor in all matters directly relating to the health of his people. The position these men, whose memory Dr. Mitchell has so beautifully recalled, sustained to the general public is the sure testimony that they lived and worked not alone for themselves and within the exact confines of their profession; but were imbued with an enthusiasm to fill the full measure of true manliness and to serve the ends of a great and humane profession, that was rewarded by the trust of their fellow-citizens and to the satisfaction of noble ambitions.

The accomplishment of such a commanding position in a community is secured by constant and untiring study—study not hampered by the metes and bounds of medical literature, but enlarged into such general subjects as pertain to general knowledge. The great free State of Literature has no time set for naturalizing those who desire to become citizens of her gentle domain. For to all there is the bidding to enter in and possess the good land and enjoy its blessings—the only compensation asked is that return shall be made, in kind, or in practice, of the good deeds which are therein laid up as great moral and intellectual examples in the lives and thoughts of great men and women that have helped to people this realm.

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CORRESPONDENCE.

NOTES OF A VISIT TO SOME OF THE NEW YORK HOSPITALS.

Messrs. Editors North Carolina Medical Journal:

Perhaps nowhere in the great European centres of learning can the advanced student of medicine find fitter opportunities for the acquisition of general or special knowledge, than in the great metropolitan city of New York.

I do not offer here anything beyond a mere *coup d'œil* of what came under my observation in a rather hurried and curtailed visit.

The hospitals are numerous; those of a general character are about eighteen in number, including the new Maternity, built by the Vanderbilt family, in connection with the College of Physicians and Surgeons; besides these, there are many private institutions for the care of the afflicted. Doubtless there has been no period in the world's history when so much has been done for suffering humanity, in all of its phases, as the present.

The practitioners with whom I came in contact seemed to be a live, go-a-head set of men, fully abreast with the progress of scientific medicine, hard workers, receiving apparently a healthy impulse from their invigorating and bracing climate. Among them it is pleasant to note the thrift and success of quite a number of Southern men who have settled in the city since the war, some of whom are attaining, and have arrived at, deserved prominence in special departments and in general practice.

When one considers the abundant material and numerous advantages afforded professional men in these great cities, with their museums, hospitals, clinics, libraries, etc., it is not remarkable that the masters in the art and science of medicine should be found here. It is all the greater honor, therefore, when men in our profession, in less favored communities, rise to high position and distinction in their calling.

Through the kindness and influence of Dr. A. H. Goelet, one of the rising young physicians of the city, and a former North Carolinian, I had daily invitations to interesting work going on at the

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different hospitals. In this way I came to visit the wards in the German Hospital in the service of Prof. Lange. I found the doctor a very agreeable and courteous gentleman. On this occasion, the day being dark and gloomy, he said there would be no operation performed, but politely invited me to accompany him through his surgical wards of sixty beds, at the same time remarking that this would perhaps be of more interest to me than any operation he might perform. Here I witnessed a great variety of surgical cases and methods of treatment, the history and management of which he seemed to take great pleasure in explaining and requesting me to examine. Having asked me to come back the next day, I did so, and saw him remove a large portion of the femur, in a boy of fourteen, for necrosis extending from above the middle of the shaft down to the condyles. When the chiseling was completed the bone appeared almost a mere shell; the wound was then made thoroughly aseptic by the sublimate irrigation, 1 to 2500, and the integument, instead of being sutured and strapped in the usual manner, was folded closely and firmly in the excavated bone, drainage-tubes inserted, absorbent pads placed longitudinally along the line of incision, and the limb firmly secured by bandage. This dressing he will not disturb for several weeks, if the case progresses favorably. This method, he informed me, he had learned from one of his fellow-assistants in Esmarch's service, and was not aware that it was practised by any of his colleagues. The advantage to be gained is that the wound heals in much less time, the result is better, and patient discharged from hospital sooner than by the old plan.

Dr. Lange has recently successfully performed a nephrotomy for pyonephrosis in a female, and nephrectomy in a male. During our conversation he inquired if we had many cases of stone, and I was somewhat surprised when he said he preferred the suprapubic method in lithotomy, giving as his reason that the various steps of the operation could be better seen, and now that we had such thorough antisepsis, the wound was not so extensive and serious as the perineal, and, moreover, in elderly persons, where there was prostatic enlargement, the finger could not, on account of depth of the parts, be made to sweep the bladder so well.

Dr. Lange has been in this country only nine years, but speaks English with remarkable elegance and fluency. He is very deliberate and thorough in his surgical work, and plain and unostentatious

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in manner. I felt impressed with the idea that he was one of the coming great surgeons of the country. To him, also, is due the credit for the introduction of antisepsis in the New York hospitals.

Dr. Gerster is also a German, and one of the visiting surgeons to this hospital, as he is to Mt. Sinai, the Jewish hospital; at the same time he is one of the professors at the Polyclinic. He, too, is a fine English scholar, and one of the most forceful and common-sense clinical lecturers I have ever heard.

The Post Graduate schools are among the new features of the day for advanced medical instruction. They are attended mostly by physicians from different sections of the country, who generally have been some years in practice, and who repair to them for special knowledge in some particular branch, or for a general brightening up, taking courses for a greater or shorter length of time, as their duties at home will permit. These schools, or rather clinics, are presided over by a very meritorious and progressive class of comparatively young men, many of whom are professors and visiting physicians and surgeons to the various hospitals of the city; the others are simply doctors and lecturers, with perhaps some dispensary service.

The Polyclinic seemed to be better fitted up and to have a larger attendance than the others. Here Prof. Gibney gives a very instructive course on orthopedic surgery, with many illustrative cases. In one young woman, who he stated worked in a silk factory, and who had been under treatment for sometime for Potts' disease, the result was marked. In this instance, he said, as she was doing so well, he would replace the permanent plaster jacket with what he called his convalescent jacket, which is applied in the usual manner, and before it is quite dry slits it up in front, takes it off, places a row of eyelet-holes on each side, so that it may be laced, when it is ready for use, and can be taken off and on at the pleasure of the wearer. Noticing a young woman of rather plain and homely appearance present in attendance on the clinic and watching every procedure with great interest, I asked her if she was studying medicine. "O, yes," she replied; "I am a graduate, but I am taking a six-weeks' course in general and orthopedic surgery." "But," said I, "do you practice surgery?" "Certainly I do," she said. "I am from New England, but I now reside and practise in the Sandwich Islands, and on one occasion I was called up at night, and rode

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eight miles through the forest and amputated a man's leg." "Ah, indeed," I remarked; "that is better than some of the men doctors could do." One of the attending physicians informed me afterwards that this adventurous and strong-minded female doctor had been sent to study here by some missionary society.

Here, also, the clinic for general surgery and diseases of the genito-urinary organs is presided over by that accomplished Southern gentleman, Prof. John Wyeth. The material he presents is apt and abundant. He is the Secretary of the Polyclinic and enjoys the reputation of a careful and pains-taking surgeon, with that of an accurate anatomist, having been for some years demonstrator of anatomy in the Bellevue College, and but for extraneous influences would have been professor of either anatomy or surgery in that institution. He is also one of the attending surgeons to Mt. Sinai Hospital.

The gynæcological clinic is in charge of Profs. Wylie and Mundè, the first named one of the former assistants of Dr. Sims, and the latter the author of a well-known practical treatise on gynæcology I was somewhat surprised at the respectable and genteel appearance of many of the patients, who avail themselves of the advantages of these clinics. A great variety of uterine disease is here represented, examined and treated in the presence of the attending physicians.

In addition to the above there is clinical instruction by other gentlemen in diseases of children—of the skin, mind and nervous system, of the throat, eyes and ears, of the chest and general medicine, also in chemistry.

St. Luke's Episcopal Hospital is a noble brick structure, with well-kept ornamental grounds, and located in one of the most fashionable quarters of the city, being on 54th street and 5th avenue. It contains about two hundred and fifty beds, and is one of the most orderly and best governed charities in the country. Having a note of introduction to Dr. Otis, the clever young house surgeon and son of Prof. Otis, I was very politely received by him and invited to visit the different wards. One of the latter contained thirty beds, occupied by little children with various surgical affections, and for the amusement and occupation of the young convalescents were to be seen hobby-horses, dolls and various games suitable to their age. They all seemed to be happy and contented as they cheerfully hailed the doctor as he passed along. It was

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most assuredly a grateful sight to see these poor little innocents so well cared for, and I could not help feeling deeply impressed with the great amount of kindly charity and benevolence bestowed upon human suffering in this our day and generation, particularly in this great city. If there is great wickedness in its midst, the natural outcome, perhaps, of so dense a population, there certainly is a corresponding goodness among its people that finds expression in the splendid charities built by them for the poor and friendless sick.

During my visit Dr. Abbey removed a double inguinal melanotic sarcoma in an elderly woman whom I had previously seen and examined in the ward. It was a nice dissection and skillfully performed, it being necessary to follow the lymphatic chain of little dark masses well down in the groin. The doctor stated that these melanotic growths were almost sure to return, but thought the present relief and increased lease of life was sufficient justification for operative interference, and further remarked that pigmented moles on the skin frequently degenerated into melanomas. The tumors when cut open were the blackest I ever saw.

Here, as in all the other hospitals, antisepsis is the rule, and is thoroughly carried out. The surgical technique is very elaborate, in fact it appears excessive and unnecessarily cumbrous. Carbolic acid seems to have had its day, though all the instruments used in the operations are immersed in pans containing a weak solution of carbolized water. The wounds are constantly irrigated with the bichloride solution, varying in strength generally from 1:2000 to 1:4000, in accordance with the views of the different operators. The sublimate gauze and bandages are colored with aniline dye, so as readily to distinguish them from other aseptic dressings.

The skeptical views in regard to the almost universal antiseptic method of treating wounds as at present employed by some in high authority in the profession, has not as yet had any effect in curtailing its use, at least so far as I am aware, in this country.

Dr. Thomas, referring to this matter, has very pertinently remarked: "As to strict cleanliness all are agreed. If antiseptics of chemical character are valueless, they at least, in all probability, do no harm. While the question as to their utility is *sub judice* give the patient 'the benefit of the doubt' and employ them." At any rate, since the days of Listerism, whether it is cleanliness, closer attention to details, or what not, the voice of hospital statistics speaks loudly in its favor.

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The patients in this hospital, when able to do so, are required to pay something, according to their means, towards their maintenance, though there is no charge for medical or surgical treatment. Private rooms, with all the comforts of home, may be had by those able to afford them. There are no seats in the operating room for visitors, but raised wooden platforms instead, with heavy iron railing upon which to lean, like some of the London hospitals.

The Surgical Armamentarium is said to be the largest and most complete of any of the institutions in the city. In all the wards except the children's the beds have neat white curtains attached to them, so that when drawn some degree of privacy is afforded the occupant; the bedsteads are of iron, furnished with elastic steel springs and hair mattrasses, and are exceedingly comfortable for the sick.

It was with feelings of pride and pleasure that I visited several times the Woman's Hospital, that noble institution for the special diseases of women, when I felt that it owed its existence mainly to the genius, enterprise and perseverance of the honored Southerner, Marion Sims. Many a poor and suffering woman, whose life had been a miserable burden, goes forth from its walls healed of her infirmity, forever to bless his name and memory. The managers are very particular in their admissions; undergraduates, as a rule, are excluded; visiting physicians obtain cards of invitation, generally, through the influence of resident practitioners.

During my visit some very interesting gynæcological work was done, particularly an operation by Prof. Emmet for lacerated cervix and ruptured perineum. In speaking of the latter he said it was an important principle in affording good uterine support to give sufficient upward convexity to the vaginal denudation; it was this principle that gave strength to the parts; especially was this essential where there was a tendency to prolapse of these organs Another point he laid great stress upon was to avoid drawing the sutures too tight, for if this was done they would be sure to cut their way through the tissues, and the result would be a failure. He had no doubt that this was the prolific cause of a want of success by many operators. The illustrative blackboard diagrams, with colored chalks, by which he demonstrated his teachings, were very clear and instructive. Dr. Thomas no longer follows the method as laid down in his book of slow and careful dissection through the integument and underlying structures in a laparotomy, but now rapidly lays open the parts down to the

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peritoneum with two or three cuts of the knife, taking a hint, perhaps, from Tait's astonishing celerity. In removing a large cysto-sarcoma of ovarian origin, with no adhesion and excessive hydroperitoneum, it seemed to me he was as expeditious as was consistent with due care and skill. He said he was doubtful of the character of the disease and the result before the operation, on account of the depressed and feeble condition of the patient, but now had every reason to hope for a successful issue. The peritoneum was apposed with catgut, the integument with silver wire, and glass drainage-tube inserted. In answer to the inquiry whether enterocele was not more likely to follow use of tube than without, he answered he thought not, that that condition would sometimes occur when no tube at all was employed.

Among all the medical gentlemen I met from different sections of the United States I found but one expression of approval of State boards of health and examination boards for applicants for practice. North Carolina I heard complimented for the work done in these directions. The colleges, too, all acknowledge the influence of the latter, and the consequence is that the standard of requirements for the medical diploma is higher and the examination closer to-day than it ever has been before in the history of this country.

W. W. L., Wilmington, N. C.

A NEW TREATMENT FOR DIPHTHERIA.

AURELIAN SPRINGS, HALIFAX, N. C.

Messrs. Editors North Carolina Medical Journal:

In the latter part of the past autumn our county was visited by an epidemic of diphtheria, an account of which I propose to give from the time it entered the bounds of my practice until its departure.

The first report of it was from the vicinity of Gaston; quite fatal, and said by physicians attending it to be of a very malignant type. Whether introduced by contagion or generated by neglect of sanitary precautions, I know not.

The first case I saw showed all the symptoms of well-developed diphtheria, which are so universally recognized as to need no description. It had been treated domestically until the remedies were found

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to be of no avail, when I was called in. Being my first case, and not having heard of its presence before, I was unprepared to treat it, and the patient died. Of the 20 cases I treated afterwards all recovered. One negro, aged 18, died several days after all throat symptoms had disappeared, voice restored, appetite returned, etc., whether from a sequel of the disease or other cause is not known. Many of the cases were virulent, and one, when seen, was so far spent that no treatment was attempted, the subject dying in a few hours.

Most of these persons had been treated by domestic remedies before medical aid was sought. The disease generally spread from one member of a family to another, children oftener attacked than adults. Occasionally it would show itself under circumstances to all appearances precluding the possibility of contagion, and the case, though violent, the only one in the family, albeit no precaution was taken to prevent contagion.

The object of this communication is to cite the treatment which was so efficacious in my hands, and which others adopted with so much success after observing its virtues. Dr. Willis Alston, of Littleton, is referred to as an instance.

No originality is claimed as to the different ingredients composing the prescription below, for taken disjointedly they have all been used heretofore and commended. But it is believed that there is no record of their having been combined as below and the virtues of all brought to bear at once. And when this particular epidemic proved fatal in so many cases and under the management of different individuals, and is said to be so still under other treatment, and when the fact is established that its fatality ceased as soon as it was met by the said prescription, it may be well to call attention to it, that its virtues may be further tested.

In a prize essay by the late Dr. E. S. Gaillard, and published in the *Richmond Medical Journal* in 1886, he recommended as a chief reliance in its treatment the following prescription:

℞.—Dilute muriatic acid	ʒ ij
Tinct. muriate iron	ʒ ij
Chlorate potash	ʒ i
Water	℥ xii

Of this two table-spoonfuls are to be given every hour through

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the day and twice during the night to an adult, less to children according to age.

In a pamphlet issued by the Rio Chemical Company, of St. Louis, Dr. Cool recommended for diphtheria an application to the parts covered by the membrane by means of a mop or probang a mixture of Kennedy's pinus canadensis, ʒ i, and carbolic acid 10 drops. Combining these two remedies, as soon as the patient is seen I commence and endeavor to obtain the constitutional effects of the solution as soon as possible, immediately after each dose of which the mopping is done with the pinus. The membrane turns black and in a few days, at farthest, drops off, not to return again. Amelioration of all the symptoms takes place and convalescence is soon established. At least that was the result in the 20 cases referred to above without an exception. It seems to arrest the disease before it has time to extend to the air-passages, from which cause it is estimated that three-fourths of the deaths result. Constipation was removed by enema—cathartics seldom necessary. Debility treated by alcoholic drinks, milk, eggs, quinine.

One little 7-year old boy had a very severe attack, but recovered so as to enjoy a fine appetite and to play out of doors. He was afterwards attacked with bronchitis and subacute inflammation of the stomach, great thirst, but unable to retain as much as a teaspoonful of water on the stomach, great restlessness, pulse for 48 hours so feeble and rapid as to be past counting. He was kept alive by enemas of milk, whiskey and quinine, with laudanum added to stay the bowels until the stomach recovered tone enough to take milk. Sinapisms to chest. He is now convalescent.

While with pen in hand I will relate a case of diabetes mellitus which apparently arose from a singular cause: An athletic negro man of about 50 years, previously very healthy, was greatly frightened by the late earthquake, immediately after which he began to void great quantities of urine, and became so feeble as to be able to walk, even with the assistance of a cane, only a few steps. He complained of a sense of oppression in the epigastric region. The history of the case immediately excited the suspicion of diabetes, and analysis of the urine showed it to be distinctly saccharine. He was put on diabetic diet and given bicarb. potash gr. 15 thrice daily. The oppression about the stomach left at once, the urine was reduced to the normal quantity. His strength increased steadily, his craving for bread becoming very urgent, he returned to it, but found that the urine began to increase again. Leaving it off, the quantity of urine subsided. He steadily improved and afterwards returned to his usual diet, and now, although not having wholly regained his strength, is able to perform much of his accustomed labor.

R. A. Patterson, M.D.

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CURRENT LITERATURE.

THE CENTENNIAL ANNIVERSARY OF THE INSTITUTION OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Commemorative Address by S. Weir Mitchell, M.D., LL.D., President of the College, delivered January 3, 1887.

* * * * * * * *

The history of any profession in connection with the progress and growth of a new country is of the utmost interest, and of no profession is this more true than of ours. The bar, the army, the navy, and, in other lands, the church, have distinct natural relations to the government, but the physician has none, and in monarchical countries the fact has served to create for him annoying social limitations which are but too slowly fading as communities grow into intelligent disregard of feudal traditions. His position in any community is a fair test of its good sense. But in new lands, peopled by the self-selection of the fittest, by those who have the courage of enterprise and the mental and moral outfit to win for it success, the physician is sure to take and keep the highest place, and to find open to him more easily than to others wealth, social place, and, if he desire it, the higher service of the State. Nowhere was this more true than in this city. In New England the clergy were for a long time dominant. In New York then, as now, commercial success was the surest road to social position. South of it was the landholder, who ruled with undisputed sway. But in this city—I may say in this State—from the first settlement until to-day the physician has held an almost unquestioned and somewhat curious preëminence. He is, and always has been, relatively a more broadly important personage here than elsewhere.

If this be not as clear to you as it is to me, let me remind you that in every legislature of this commonwealth you will find a dozen members of our profession who have for a time taken up the duties of law-givers, intending to return again to their practice. I observe on the list of our Fellows to-day many men—and they are of our best—who have been or who are directors of insurance compa-

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nies or saving funds, or even of banks, a thing almost unheard of in cities where the lower civilization of commerce is dominant. You will find them, also, in unusual numbers on our collegiate boards. Our great charities are never without some of them in their councils; and the Philadelphia Library is obliged, under the will of James Rush, to have in its direction three physicians. In our hospital boards, and still more largely in our learned societies, they are equally well represented.

Says a learned historian, writing of the Philadelphia of 1828: "Nothing struck me so much as the social force and influence of the physicians. I was familiar with other cities, and nowhere else did they seem to me to be so distinctly the leaders of social life."

* * * * * * * *

Of Rush, Dr. Mitchell said: "With reverent doubt of my powers to do justice to the greatest physician this country has produced, I approach the task of briefly recalling to your memories the vivid and emphatic personality of Benjamin Rush. His life invites a less hasty biographer, and is full of such seeming contradictions as can only be explained by the belief that the earnest, decisive and mutinous nature of a man, proud, rather than conceited, got the better of the principles by which he honestly strove to guide his conduct. That he won at last in this contest, was shown by the grief with which a nation mourned his death, when the poor in crowds besought a sight of his face, or, at least, to touch his coffin. Look at his portrait by Sully in our hall. It has the scholar's hands, the largely modelled head, the contemplative blue eyes of the observer, the nose and chin strong, firmness in the mouth, and a trace of too critical tendencies in the droop of the lines of the lips, withal a general expression of tranquil benevolence, a face like the man's life and character, full of dissimilars, with a grand total of good.

"How shall I briefly bring before you the career of this restless being? Relentless energy drove him through a life in which ardent sense of duty, large-minded philanthropy, love of country, devotion to his art and its science, immense belief in himself, were the motives to industry, which made note-books the companions of his student youth, and which failed not until the pen fell from a hand enfeebled by the close approach of death.

"He was a statesman, a scholar, an army surgeon, a punctual and

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careful physician, an actively religious man, a far-seeing and courageous philanthropist, and a sanitarian far in advance of his day. These are what I might call four careers, in all of which he excelled unaided by secretaries or modern means of condensing and relegating labor: one such suffices most men. He was a member of every important political assembly which met in this State while he lived. When timid men fell out of the Continental Congress, he was elected to that body, that he might sign the Declaration of Independence, and was the only physician whose name is on that energetic arraignment of the Crown. I have neither time nor desire to speak of his relations to Washington. He criticised him with his usual courage and with a severity in which at that time he was not alone, and, although later in life he somewhat relented, he never quite forgot the bitterness which arose out of his too famous letter, and to the end of his days looked upon the great leader as one not above the judgment of his fellows. As regards the patriotism of Rush, there can be no doubt. It approached the earnestness of religion, and its very intensity made him unhappy and critical when others seemed to him to be showing that want of energy which in the first years of the war he thought was seen in the Fabian policy of Washington.

"Rush was Surgeon General to the Middle Department, and later Surgeon-General, and served faithfully in the New Jersey campaign and in the dreary camp at Valley Forge. He resigned in 1778, after his difficulty with his chief, and declined pay for his services.

"As a broad-minded philanthropist, I view him with wonder. The higher education of women he urged as a special need of a Republic, and as boldly wrote of public punishments and against the penalty of death. With like courage he denounced slavery, or turned to demand legislation against the abuse of alcohol, or to implore care in the use of this agent in disease, and, although a scholarly man, eloquently represented the waste of time in the too general study by the young of the classical tongues.

"On his medical career I cannot linger. His views as to bleeding were extreme. They were greatly modified in his later years, but have been misrepresented by the enmity his positive nature excited. His ideas on the contagion of yellow fever and its domestic origin, excited the hostility of commerce, and embittered his existence; but, although as to the former he changed his beliefs later in life, as to the latter he seems never to have faltered.

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"I presume that he held his opinions tenaciously, and was so conscious of his own general superiority to those about him, that he found it hard to weigh their reasons justly. He says: 'I early discovered that it was impossible for me, by any reasonings, to change the practice of some of my brethren.' Then he adds: 'Humanity was therefore on the side of leaving them to themselves, because what is done in these consultations is the ineffectual result of neutralized opinions; for the extremity of *wrong* in medicine, as in morals and government, is often a less mischief than that mixture of *right* and wrong which serves, by palliating, to perpetuate evil.' How interesting is this irritable confession, which tells so much more of the man than he meant to put into it. Let me add, as a thoughtful physician, that no one can read what he wrote (and I have read most of it) without a strong sense of his sagacious and intelligent originality, and admiration of his clear, and often fervid, style. His work on insanity is a masterpiece. A recent English writer calls his book on 'The Bilious Remitting Yellow Fever' a wonder, and says of that remarkable description of his sensations during the height of the epidemic: 'It is as if he were talking to you, a ghostly whispering through a veil of nine-tenths of a century.' He has been called the American Sydenham. He was not, as I see it, so great a physician, but taking his whole career—and both were earnest republicans—Rush was the larger personage, and surely, next to Franklin, the greatest citizen of Pennsylvania.

"His bitterest foes are best remembered because of the man they reviled. Even before death came to heal all wounds, he stood where few have stood in the estimation of men. He could not but feel this tribute. It gentled the positive and ardent nature, once ready to cross swords with all who dared to differ. He says: 'I was once an aristocrat, then a democrat, now I am a Christocrat.' Certain of his words should have been placed upon his tombstone. With them we may leave him to his repose, near the yet greater Franklin. 'Posterity,' he says, 'is to the physician what the day of judgment is to the Christian.'"

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The history of an old and learned institution is that of its members and of its relation to public affairs. No man can hope in the scope of an address to set before you the shining roll of the men

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who have illustrated our story with duty done simply and in private, of patient, charitable lives, of those larger existences which left their mark, also, on the science of their day, and to this memorable hour have sustained in noble succession the prominence of this city in all that lifts our art and its sister sciences above the common levels of applied usefulness. The task were hopeless and belongs to the historian rather than to the orator.

But our relation to the public cannot be thus readily disposed of. The acts of single men help to give us collective power to interfere in public matters, and here this College has been up to this day potently active. To it came early for advice in all affairs of health and quarantine the city, State and general government; and the minutes amply record that it has labored conscientiously to aid the commonwealth and the city as to sale and importation of pure drugs, as to parks, water supply, education, drainage, and the many other problems which call for advice and direction from experts.

To the physician epidemics are his battlefields. His daily life is hard enough, and, unlike the soldier, he lives amidst constant perils, of which habit has made him negligently forgetful. He is assisted to be unthoughtful as to risks by the fact that the community thinks little of those which are not, like the soldier's, occasional, or which it does not largely share. You must have lost sense of heroism if you do not feel some thrill of pride when you look back with me over those sad years in which the Fellows of this College, amidst the contagion of terror, faced the storms of death which from 1793 to 1804 swept over this city and forever ruined its mere commercial supremacy.

* * * * * * * *

Books are the best tools of our business, and a great library like ours insensibly educates by tempting men with the noblest of opportunities. It is like an unfailing friend to whom we go for counsel and helpful advice, and a catalogue is its ready memory of all that our greatest knew and taught. Look around that great collection in all tongues. It is a vast presentation of the thoughts, the beliefs, the victories, the defeats of that profession which has been, as compared to any other, the purest, the most single-minded, the most simply devoted to its moral creed, the world has seen through all its changeful ages. It has its peerage, its lords of thought, its sturdy, practical commons. Yet here is no set creed of

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dogmatic beliefs. We make and unmake our rulers, and time, which is more wise than Bacon, has a large vote in the matter; but while systems of medicine crumble, and doctrines have their little day, and men have been intellectually right or wrong, it is pleasant to remember that the lofty code of moral law our Greek fathers taught has kept through all these productive centuries an invigorating control over the lives these gathered volumes represent. Thus, for him who loves his art, a great medical library is full of lessons in the conduct of life. There, side by side, the feeblest and the strongest meet. What a record of the follies and caprices of learning, of devotion, of martyrdom, of simple usefulness, of ambitious failures! Here are stately tomes unread for ages. Here is some little volume which has changed the great currents of thought and brought hope and relief to a thousand bedsides. In yonder corner is a modest book-case, which groups the bric-a-brac of the bibliographer; the mad jesters, the cranks, the queer anecdotists, the priceless incunabula, the medical poems.

I like to think of the book-loving men to whom we owe this collection. Morgan, the scholarly; Hays, editor for fifty-three years of the best medical journal the world has seen; Moreton, Stillé, too early dead, with his half-used store of varied learning; Wood, Betton, Mütter, Gross, the great surgeon, Hodge, the famous teacher of obstetrics; Lagus, that gentle and modest scholar, who once said to me in his odd way: "I like the men who are like books, and that is why I like Samuel Lewis."

* * * * * * * *

In that last great war we most of us so well recall, whatever we may thought or felt of that section of our race which faced us in fight, of this at least I find it a pleasure to feel sure, that wherever men were sick or wounded, our ancient guild did well its Christ-like duty. As to that record, North and South, there can be neither doubt nor difference.—*Medical News*

We want copies of the "Transactions of the North Carolina Medical Society" for all years prior to 1867, and for the years 1868 and 1873. Parties having any of these to dispose of, will please write to this journal, giving the years which they have and the price wanted therefor.

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Fig. 1.

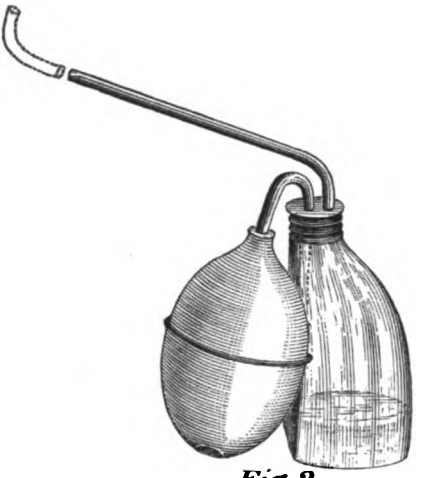

Fig. 2.

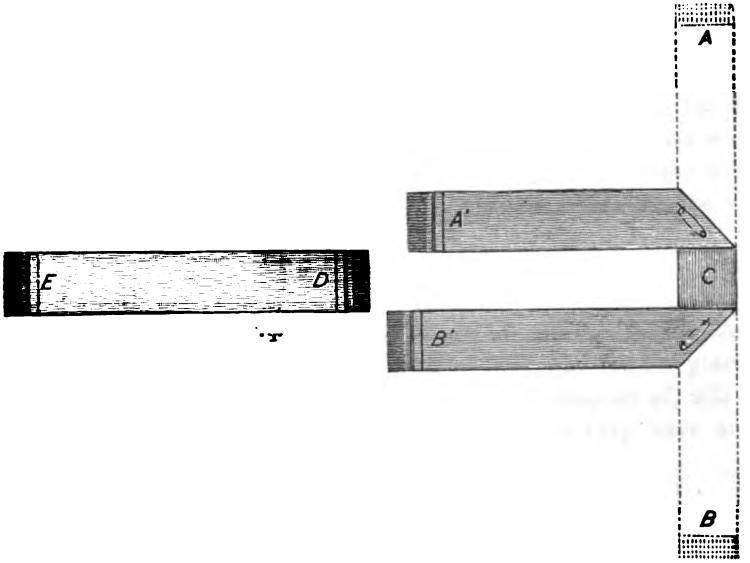

Fig. 3.

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ORIGINAL COMMUNICATIONS.

NOTES ON MINOR SURGERY.

By Edward O. Otis, A.B., M.D., of Boston, Mass., Surgeon to the Boston Dispensary.

The amount of surgery which the general practitioner sees and treats is, I suppose, small in comparison with his medical cases; and, moreover, of this amount the most of it would, I fancy, come under the head of minor surgery, so-called. It is not often that he has to do with a laparotomy or an amputation of the thigh, but an abscess, sprain or burn, for example, falls not unfrequently under his care. The skill and attention which he exhibits in the care of these smaller surgical cases will not only redound to his reputation as a successful physician—often out of proportion to the gravity of the case, for the results are so manifest—but will add much to his own satisfaction in seeing a speedy and successful cure.

I have therefore ventured to write these notes upon the small things in surgery, hoping that they may not be without profit and interest to the readers of the North Carolina Medical Journal.

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First, then, let me speak of the appliances and material which the physician should have at hand for the proper and careful treatment of his cases of minor surgery. At the outset let me say that everything should be done antiseptically, as absolutely so as the conditions of the case render possible; the perfect antiseptic ideal should always be kept in mind.

For holding the few instruments which are needed I find that a glass, earthenware or tin baking-dish, say about ten or twelve inches long and five or six wide, answers admirably well, and something of the kind can almost always be found in every household. This is filled a third or half full with a 5 per cent. solution of carbolic acid, into which the instruments, previously thoroughly cleansed, are placed. For almost any case of minor surgery the following instruments are sufficient: A pair of straight scissors, dissecting forceps, director, probe, dressing forceps, a Volkman's spoon for cleansing out abscesses—though for this purpose one can use one of the blades of the dressing forceps—and one or two scalpels. With some surgeons a narrow curved bistoury is the favorite knife for incising abscesses. I prefer one with rather a short, straight blade (see Fig. 1), except in the incision of a felon, when I prefer a scalpel with rather a large belly upon it, which I use in the following way: With the finger outstretched upon the table, I enter the point of the knife, the edge looking towards the finger end, where I wish the upper angle of the incision to be, the knife being at right angles to the surface of the finger. I then sweep the knife through an arc of about forty-five degrees towards the finger-end, coming hard down upon the bone at last, the knife at the end being nearly parallel with the digit. This manœuvre can be executed with great rapidity, and if the patient pulls the finger away no harm is done and the cut is all the more satisfactory.

For irrigation and cleansing purposes carbolic acid, one to forty, or the bichloride solution, one to one or two thousand, experience has proved to be the best.

With the tablets now in the market this latter solution is quickly and readily made. A glass syringe of from one to two ounces capacity is perhaps the most convenient thing for general use in washing out wounds and cavities, it can so easily be kept clean. A fountain syringe is also good, particularly in the office. A four or five per cent. solution of cocaine and a subcutaneous syringe, to be

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used only for injecting cocaine, are of inestimable value in small surgical operations. Evulsion of in-growing toe-nails, excision of small tumors, amputation of fingers, circumcision and a host of other small operations can all be done under cocaine almost painlessly. In operations upon the fingers or toes, I have found it well to tie a bit of bandage pretty tightly above the place of operation, and then to inject from five to ten minims of the cocaine solution deeply into the tissues in three or four places. In removing a toe-nail, for instance, I obtained absolute immunity from pain by injecting the cocaine at each side of the toe and at the end. Nitrous oxide (laughing gas) is very convenient and safe for quick operations, such as the incision of an abscess, as is also the primary unconsciousness of ether. For dressings, a box of iodoform, with a wooden spatula or camel's-hair brush, must be always at hand. If one objects to the odor of the iodoform, this can be mitigated by mixing with the iodoform coffee or tonga bean. In hernial sores, where often the odor of iodoform is particularly objectionable, a saturated solution of iodol, which is odorless, in ether, can be used. For cavities, a powder-blower of almost any kind, filled with the iodoform, can be used. I am in the habit of using one like the cut (see Fig. 2), which is also used for insufflation of the posterior nares by attaching a curved tube at A. The advantage of it is that it can be held in, and managed by, one hand, leaving the other free for manipulations. Plenty of antiseptic dressing material also one must have, and that commonly used is gauze (cheese-cloth) prepared with carbolic acid, corrosive sublimate or iodoform. Almost an infinite variety of material has been suggested which shall be the medium of the antiseptic; it makes not so much difference what it is, provided it is *thoroughly antiseptic* and of sufficient density.

Compound tincture of benzoin is very satisfactory for superficial wounds, the dressing being saturated with it. It can be used either alone or in the combination known as styptic colloid, made according to Mr. Gamgee's formula as follows:

℞.—Tannin	1 part
Tr. benzoin co	2 parts
Collodion	5 parts

This can be applied on a bit of absorbent cotton. One should

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also have at hand bits of old soft cloth, upon which to spread ointments, absorbent cotton, cotton-batting, good adhesive plaster, and bandages, made of washed, unbleached cotton cloth, preferably.

A pickle or fruit-preserving jar, with a solution of one to twenty carbolic acid in it, is about the best thing to keep one's catheters in, whether they be soft rubber or metal.

For sutures and ligatures silk can be used which has been boiled an hour in one to twenty carbolic acid and preserved in a wide-mouthed bottle filled with a solution of carbolic acid of the same strength, or it can be soaked for a couple of hours in a one per cent. solution of corrosive sublimate and preserved in a weaker solution of the same (one to one thousand). If catgut is used, though I find the silk answers perfectly well, it can be soaked for two days in oil of juniper, washed and kept in alcohol.

For ointments the following are perhaps the most commonly useful: Eucalyptus—one part by measure of the oil to four parts by weight of vaseline; boracic—boracic acid one part and five parts either of simple vaseline or of a base composed of two parts of paraffine to one part of vaseline, and of this base five parts to one of boracic acid; this can also be made of half strength; salicylic—one part of salicylic acid to twenty-nine of the same base as used in the boracic ointment or of simple vaseline; carbolic—made with vaseline of varying proportions, perhaps one to twenty, is the most useful. These are substantially the ointments and the proportions given by Cheyne in his "Antiseptic Treatment of Wounds."

For lubricating catheters I prefer eucalyptus oil or eucalyptus vaseline on account of its fragrant, pleasant odor, and use it in the proportion of one part of the eucalyptus oil to sixteen parts of vaseline, olive oil or castor oil. If an application is to be made to the urethra after passing the catheter or sound, then glycerine must be the base.

Having now made preparations for the treatment of any case of minor surgery which may present itself, let me next speak of some of the more frequently occurring cases. And first, I will refer to that *bête noire* of the general practitioner as well as the out-patient surgeon, *enlarged cervical glands*, which are too often dismissed with a coat of tincture of iodine and a prescription for iron or cod-liver oil. All the exciting causes in the track of the lymphatics

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should be looked for and considered—eczema of the head ; parasites. Often have I found that an abundant crop of pediculi capitis was the offending cause. In a child consider, (1) Purulent otorrhœal (2) Ulcers in the mouth. (3) Discharge from the nose. (4) Enlarged tonsils. In an adult, (1) Enlarged tonsils also, and tonsillitis. (2) A carious tooth. (3) A cold. (4) Enlarged caseating follicles in the pharynx. (5) Syphilis.

If the cause can be discovered and removed, the enlargement will often speedily disappear. If no such exciting cause can be found, then it is fair to presume that the gland is a so-called scrofulous one, and for such I have obtained the best results (so far as external applications go) from the ung. hydrarg. iodidi. rubria, of the British Pharmacopœia, well diluted, say one part of the ung. hydrarg. iodidi. to seven or eight of simple ointment. For young children this must be still more diluted or vesication will be produced. A bit of this ointment, about as large as the end of the thumb, is to be thoroughly rubbed in over the gland for from fifteen to twenty minutes every day or every other day. I have also used iodide of potash made into an ointment with lanolin, but have not been able to obtain as good results from it as from the iodide of mercury ointment. In almost every case constitutional treatment is also needed in the form of iron, cod-liver oil or mercury, and it goes without saying that the hygienic conditions should be carefully regulated. Recently, chloride of calcium has been advocated as efficacious in scrofulous glands, given in 10 gr. doses three times a day and gradually increased to 20 grs. [Vide *Practitioner*, London, January, 1886.] In a case of enormously enlarged glands, in which it was used for many weeks, I could detect no especial improvement.

Within the last year or two a number of very suggestive papers have been written upon this subject, the titles of some of which I will give for those who wish to make further investigation :

I. "On the Nature of Scrofulous Glands of the Neck and their Surgical Treatment." By Kendal Franks (*London Lancet*), June 19 and 26, 1886.

II. "The Surgery of Scrofulous Glands." By T. Prigden Teale (*Medical Times and Gazette*), January 10, 1885.

III. "Enlarged Cervical Glands." By H. F. Vickery, Boston (*Medical and Surgical Journal*), March 11, 1886.

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IV. "Rest in the Treatment of Scrofulous Glands of the Neck.' By F. Treves (*London Lancet*), June 5, 1886.

Enlarged inguinal glands are also of frequent occurrence, and are a very interesting study, both as to their cause and treatment. Here, again, one should have in mind the cause of the lymphatics which supply the different glands in the groin. Of the superficial glands, with which we have most to do, there are two groups, those above Poupart's ligament and those below. Those above are counted with the lymphatics coming from the integument of the scrotum, penis, parietes of the abdomen, perineal and gluteal regions; those below with the lymphatics coming from the inferior extremity. The long axis of those above is parallel with the leg. If we can then determine the position and form of the enlarged gland, we shall know in what region to look for the cause of the bubo, whether in the genito-urinary, lower abdominal or gluteal regions, or to the leg or foot. In considering inguinal glands one must always bear in mind the possibility of a hernia. The most frequent cause of an inguinal bubo is some irritation in the genito-urinary tract, gonorrhœa or venereal sore; and we may have either a hard non-suppurating gland or a soft fluctuating one. In the former case, besides, of course, treatment directed to the cause of the trouble, one may apply the iodide of mercury ointment as in glands of the neck, keeping, if possible the patient at rest with the leg elevated. In the latter a free incision should be made, either parallel to the long axis of the gland, or perhaps better, at right angles to it, and the interior of the cavity curetted with the Volkman's spoon. Iodoform powder should then be freely applied and an antiseptic dressing, covered with layers of cotton batting, for compression, tightly bound on with a spica bandage. This should remain untouched for several days. A poultice, in most cases, only prolongs the suppuration.

It is remarkable how soon healing ensues under this method of treatment. O. Peterson, a German surgeon, found that in a trial of this method for three years the average time of healing was twenty-three days, while previously the average time was from seventy to ninety days. One meets also with enlarged inguinal glands, the cause of which is apparently some strain in lifting or doing heavy work; here simple rest is generally sufficient. The lymphatics in their course are sometimes inflamed, as, for example, the red lines running up the arm from some injury to the fingers or hand, and the injury may be

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very slight, too. In such a case painting with tincture of iodine is followed with good results.

Abscesses occurring in different parts of the body, particularly those on the back of the neck, can often be treated in the same manner as suppurating buboes, namely, incision, curetting and an antiseptic bandage. At all events, if a poultice is applied it should not be kept on too long. As a temporary dressing after the incision, until the patient can apply a poultice at home, if one is thought proper, a wad of absorbent cotton, smeared with carbolic glycerine or vaseline is good.

In *alveolar abscess*, a not unusual affection, the mouth and teeth should be carefully examined. If a decayed tooth is discovered about which the mucous membrane is tense, inflamed and boggy, it should at once be extracted, and there will often follow a welling up of pus in its cavity. If the tooth appears sound, about which the inflammation seems to be, scarification can be resorted to. If there is a fluctuating point anywhere about the tooth, that, of course, should be incised, which can be most safely done by a scalpel, guarded by a bit of bandage wound around it to within half or three-qaarters of an inch of its point. A mouth-wash of the following

℞.	c. c.	
Acidi carbolici.....	0.5	= ♏ix
Tr. myrrh.....	5	= ♏lxxxi
Aquæ ad.....100		= ℥ iii ss

♏.

is agreeable and disinfectant while pus is being secreted anywhere in the mouth.

When there is an external swelling on the jaw, do not be in a hurry to incise it, for possibly suppuration may be averted and the risk of a fistula avoided. Contractile collodion or a solution of carbolic acid, one to twenty, are sometimes effectual as abortives. If fluctuation is made out, or there is great pain and throbbing, an incision will have to be made, and when attempted should be deep enough to strike the pus, down to the alveolar process itself, if needed. In such a case as this ether had better be given and the incision carefully made. A pair of dressing forceps used as dilators will safely enlarge the opening.

In threatened *abscesses of the breast*, where the gland is hard, tense and exceedingly painful, an attempt, often successful, should

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be made to avert suppuration. The first and most important thing to do is to apply support and compression. To accomplish this an arrangement with two towels known about Boston as the "Richardson" bandage, first devised by Dr. W. L. Richardson, of the Boston Lying-In Hospital, seems to me to be the easiest and is very effectual. It is made in the following way (see Fig. 3): A towel, A B, is folded lengthwise about five inches wide. The two ends are then folded diagonally so as to be parallel with each other, A B, leaving space enough to embrace the breast between them. At C the end D of a second towel, folded lengthwise like the first, is attached with safety-pins, and being carried around the back, meets the ends of the first towel, when all three ends, A' B' and E, are united by safety-pins as before. A piece of cloth or bandage can be carried over each shoulder and pinned to the towel bandage to hold it up, if necessary, while the patient is walking about. Beneath this towel bandage cotton-batting or absorbent cotton can be placed so as to make compression. Various applications have been suggested to prevent suppuration: spirits of turpentine, applied on a cloth; an ounce of carbonate of ammonia in a pint of boiling water, applied assiduously for half an hour, and repeated in from two to three hours; lead and opium wash; spirits of camphor. In one case in which I tried the spirits of turpentine I was not successful. If the mastitis goes on to suppuration a good free opening must be made at the most dependent portion and a drainage-tube inserted. Here, again, a good antiseptic dressing, firmly applied, is better than a poultice, and will bring about a more speedy cessation of suppuration and a quicker recovery.

Chronic varicose ulcers of the leg, though so often regarded as exceedingly uninteresting cases, because they are so frequent and so chronic, have very much of interest, particularly in their treatment, to the reflective and ingenious physician.

As to local treatment, the applications and methods are innumerable. Some do well, often being cleaned up by a poultice for a few days, under a good layer of iodoform. In others I have found compression, by means of strips of mill-board, applied over cotton-batting with a firm bandage, successful. When the edges of the ulcer are indurated and brawny, and the ulcer itself unhealthy-looking, with a thin, watery discharge, the unguentum hydrarg. applied over both ulcer and edges, is often speedily successful in stimulating the

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parts into a healthy condition. Blisters about the ulcer on the indurated borders, I have also found of service. Whatever the application, the leg should be firmly bandaged from foot to knee.

Sometimes, after everything else has failed, thoroughly curetting the ulcer will be the beginning of a successful termination.

The rubber bandage, the silk elastic stocking, a bandage made of Shaker flannel cut bias, so as to increase its elasticity, are all useful.

The general condition needs often quite as much care as the local. As a rule it is below par, and besides good food and hygienic surroundings, a tonic is indicated. One like the following, from our Dispensary formulary, I am fond of giving:

℞.

Strychniæ sulph.....	04 grs.	= gr. 3-5
Ferri sulph.....		
Cinchoniæ sulph., āā.....	15 grs.	= gr. xxv
Syr. simp.....100	c. c.	= ℥ iii ss

℥. Sig. teaspoonful 3 t. d., after meals.

The preparation known as the syrup or elixir of the triple phosphates is also good. Again, iodide of potash seems best to fulfil the indications.

I have been struck with the complaint made by so many patients suffering from chronic ulcer of inability to sleep. This must be attended to and care given that the nervous system has complete rest. The heart must also be looked to, and if found feeble and weak, toned up with digitalis or whatever seems the best drug for its special condition.

Scalp wounds, particularly those over the eye and on the forehead, are a class of injuries which do remarkably well under cleanliness and antiseptic dressings, but give no end of trouble if not carefully and properly attended to. How often have I had a scalp wound brought to me several days after its occurrence, which had been closed tight, with no attempt at disinfection, by the sticking-plaster of an officious apothecary, the œdema, swelling and pain indicating only too truly that abundant germs have been shut up in the unclean wound, and a gush of pus following the removal of the plaster. With careful cleansing by the carbolic or bichloride solution, followed by a thick layer of iodoform and an antiseptic pad, healing generally readily ensues, but alas! often with an unseemly scar, which might have been avoided if only, in the first place, cleanliness, antisepsis and a careful approximation of the edges of the wound had been done. Moreover,

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all suppuration is dangerous, and particularly so is it about the scalp, whereby it may extend rapidly and induce grave cerebral trouble. When pus collects in the loose bag of tissue about the eyebrows, after pressing it out and disinfecting the cavity, a small antiseptic pad, tightly applied, will expedite the glueing down of the surfaces.

Sprains are a frequently recurring class of injuries which often tax the resources and ingenuity of the surgeon as to their best treatment. Those of the ankle and wrist are the most common. In both it is sometimes difficult, if not impossible, to distinguish between a fracture and a sprain, or even a partial dislocation. If doubt exists as to which of these it may be, it is a safe way to immobilize the joint, and this can be done either with ordinary splints, with the mill boards, as described in the treatment of ulcers of the leg; or, if the physician can watch it carefully, with a plaster of Paris bandage. Even if the diagnosis of a sprain is clearly made out, and it be a severe one, as indicated by the amount of swelling and pain, immobilization is perhaps the best treatment. It is often a nice question to decide when to begin passive and active motion. If the sprain is a less severe one, a douche with hot water, as hot as can be borne, applied for an hour or two even, and frequently repeated, I have found a most efficient and comfortable treatment. Contractile collodion painted over the joint, as first suggested by Dr. A. N. Blodgett, of this city, I have found of value, giving both a certain amount of immobilization and compression. I would refer the reader to a most excellent paper upon this subject by Edmund Owens in the *Practitioner* (London) for August, 1886.

In sprains of muscles and vague injuries about the trunk I have often obtained great and permanent relief by tight strapping as for fractured ribs; and I will also mention in this connection the wonderful relief obtained by strapping the chest so as to immobilize the intercostal muscles, in the excruciating pain of acute pleurisy. Here, however, instead of applying the strips of plaster parallel to each other around the chest, one can obtain greater immobility by applying them at an angle to each other, as in strapping an ulcer.

For *burns* I am fond of using either the boracic or eucalyptus ointment. The latter at first, and the former later, when more stimulation may be needed. One should always bear in mind the tendency to contractions in burns, and keep the part in its natural

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position as near as may be. If, in spite of careful attention, contraction ensues, and sometimes it is inevitable, let the ulcers first thoroughly heal, and then begin movements to overcome the deformity. Carron oil, which has been for so long the regulation application to burns, is both nauseous and septic.

All *fresh wounds* should be treated with thorough antisepsis and not disturbed for a week, or until healed, unless pain or discharge indicates that the antiseptic dressing has failed, or rather that the surgeon has not succeeded in his antiseptics.

In *suppuration about the hand* pus travels with great rapidity in the smooth track of the tendons, and free incisions should be made at once; it is the only safe and sound practice. In the case of a young man who came to the dispensary with suppuration in the palm of the hand from an abscess in the finger, all suppuration ceased in two days after a free opening under ether. Delay is dangerous whenever suppuration is going on, and nowhere more than in the hand.

With regard to *foreign bodies*, needles and the like, there is only one rule to follow: if you do not feel the body and there is no evidence of inflammation, let it alone; do not cut and grope around for it. "Only attempt to remove a foreign body if you can feel it."

In closing these desultory notes I wish to impress upon my readers the *influence which the condition of the general health exercises upon the healing of wounds and ulcers.* Let me give an illustration or two: After the excision of a long-standing unhealthy ulcer of the prepuce, healing went on satisfactorily for a while, and then, quite mysteriously, the wound began to take on an unhealthy condition and ceased to heal. On inquiry it was discovered that the man had been indulging in stimulants, and these being stopped, healing ensued. Again, in a girl with a small ulcer upon the leg, no application seemed to produce the least beneficial effect upon it. The girl showed some evidences of anæmia and iron was given. Almost immediately the ulcer began to improve and soon healed.

After all it is the so-called slight ailments and minor surgery which demand the acumen and judgment of the physician quite as much as the graver cases; and, moreover, it is the judicious and painstaking attention to these smaller cases which happily prevents them from terminating in more serious ones.

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OPERATION FOR NECROSIS OF THE HUMERUS.

By A. A. Maynard, M.D., Cairo, N. C.

J. S. B., boy, aged 15 years. On the 22d day of October, 1886, I was consulted for the first time by the father giving the following history: Two years ago, November, 1884, the boy was taken with severe pain in the right shoulder, accompanied with very little redness, but skin was tense, unusually œdematous and very sensitive to touch. He was treated by the attending physician for rheumatism, but in the course of three weeks fluctuation was detected and an incision was made to evacuate the pus that was supposed to have collected. When the incision was made very profuse suppuration followed, and has continued until date of operation, other sinuses having formed in the meantime, and it was noticed in six or seven weeks that small particles of bone were being thrown out, mixed with the pus that was discharged through these fistulous openings. This fact was made known to the physician who had been treating the case, and tinct. ferri chlo. gtts. xv, t. i. d. was prescribed, leaving the balance to nature. I requested the father to bring his son to my office for thorough examination, and when he came the next morning I found him rendered somewhat anæmic from the long-continued drain upon his system, being of two year's duration, and very poorly developed for a boy of his age. On examination I found five sinuses, three on top of the arm, the upper one being near the shoulder-joint, through which a spicula of bone was projecting; also one in front and one behind the arm. All these sinuses would readily admit the probe and were in a state of suppuration. I found the inferior surface of the bone seemed to be sound, though it appeared to be in a triangular shape. I was fully convinced that there was a considerable amount of dead bone present and advised an operation. The boy left undecided, though in a few days consented to have the operation performed. I summoned professional aid, and on November 9, 1886, I proceeded to the work. He was placed upon the operating table and anæsthetized with chloroform; then a straight incision was made external to the deltoid muscle down to the necrosed bone, making the line of my incision the three sinuses upon top of the arm. I found, on separation of the periosteum, complete necrosis of the humerus, and extracted

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three inches of the entire bone, which was detached and imbedded in the muscular tissues forming a pus cavity. After extracting the bone, I scraped off all the dead tissues which surrounded it. No hæmorrhage scarcely, except from the circumflex artery, which was arrested by torsion. I used carbolic acid solution 1 to 20, and closed the wound with interrupted sutures—wound dressed and patient placed in bed. It is important to state just here how repair of bone will take place, even under unfavorable circumstances. The triangular bone to which I made reference was entirely new bone, which had been thrown out by the upper part of the humerus, attaching itself to the inferior surface of the lower part of the humerus, and the humerus now presents somewhat the shape of a gun-barrel with a bayonet attached. Though this new bone was not at all in the natural position or shape, having formed below the necrosed bone, yet it seems to be strong and sound. My patient rallied after the operation without the least shock, nor was there any nausea or vomiting. I had directed him not to take any breakfast that morning, consequently there was no undigested food to be vomited.

On the afternoon of the second day his temperature was 100° F., and the wound was in a nice condition. He was taking sulph quin. grs. x per diem, also syr. ferri iod. gtts. xv, t. i. d.

Fourth day, temperature normal and wound healing nicely, being dressed every twenty four hours; union by first intention except where the incision went through a sinus. I saw him three weeks after the operation, just before I started to my new location. His general health was improving rapidly and the wound about healed, those old fistulous openings filling by granulation. He wrote me several weeks ago that "his arm was almost entirely well, that he had been hunting, had killed two partridges at one shot, and was very proud he had the operation performed." He is now well and in school.

Linseed Oil as a Remedy for Itching.—A correspondent of the *Boston and Medical Surgical Journal* recommends the inunction of linseed oil as the best of all remedies for arresting the distressing itching of the anus with which so many persons are afflicted.

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SELECTED PAPERS.

THE DIFFERENTIAL DIAGNOSIS OF CANCER IN THE MESENTERY.

By W. C. Van Bibber, M.D., of Baltimore. Read before the Baltimore Academy of Medicine January 18, 1887.

It was a surprise to me, whilst making some investigations connected with this paper, to find that the differential diagnosis of cancer in the mesentery may almost be considered as a new subject. To present the matter clearly, there are so many points to be submitted for consideration, and such a necessity that each one should follow the other, in a proper sequence, that there is evidently a choice of ways in which the subject may be presented.

Fortunately the high authority of Lord Verulam is applicable in such an emergency. He advises to commence by what he terms "the opening of the way." By this is meant a statement of the facts connected with the case, and of these facts I have a record of three cases with which to begin.

Case 1.—Miss Mary B——, aged 23, had been healthy as a child, a girl and a woman, until about the middle of November, 1884. She was at that time engaged in teaching school, and being placed under favorable circumstances, there was no known cause to which her sickness could be attributed. She commenced by complaining of pain in the back. Soon the pain was referred to the left side, and gradually became more diffused and incessant. Yet as to location, it was always referred to the left side; sometimes in the hypochondriac, then in the lumbar, and sometimes again in the iliac region. The pain was always described as a deep-seated, internal, never-ceasing pain. Of its character there was less uniformity; sometimes it was said to be lancinating, making her cry out. Again, it was steady and constant; sometimes shifting from point to point, over a surface embracing the three regions mentioned. She had been attended during the course of her sickness by several physicians, who had tried many means of alleviating this pain, but without success. Finally, whilst Dr. J. Houck was her attending phy-

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sician, I was called in consultation. I first saw her on the 10th of February, 1886, after she had been sick and under treatment for about a year and four months. I had no difficulty about expressing a diagnosis. A large tumor in the hypochondriac region with well-marked pointing and fluctuation over the middle of it, accompanied by pain, a weak, thready pulse, and a general cadaverous appearance of the patient, left no doubt in my mind that it was an abscess, and most probably of the spleen.

To my great surprise, however, Dr. Houck's longer study of the case had taught him to think quite otherwise. "There can be no abscess," said Dr. Houck, "because at no time has there been any rigor, and the thermometer has never been above normal, but, on the contrary, most frequently it has been sub-normal."

Notwithstanding this evidence, such was the firmness of my conviction that, at my earnest solicitation, it was agreed to return the next day and aspirate the supposed abscess.

In the meantime warm poultices were ordered to be applied to the spot where "pointing" was then so distinct.

When we returned the next day the appearance of the parts had entirely changed. The size of the tumor had subsided, there was no longer any pointing or perception of fluctuation. Such a change was scarcely credible, so that the needle was passed deeply in at the point where fluctuation was so distinctly felt the day before. No pus was obtained.

Prof. S. C. Chew saw the patient with Dr. Houck and myself on the next day. He declined making a diagnosis. The patient died on the 20th of February, 1886. On the 21st, when we were assembled for the autopsy, I again committed myself to the diagnosis "of an abscess somewhere, most probably in the peritoneum." Drs. Houck and Chew again declined committing themselves to a diagnosis.

The autopsy was made by Dr. Claude Van Bibber, who has furnished this report: "Body emaciated and pale. Only the abdominal cavity opened. Immediately on dividing the peritoneum a large hard mass presented in the umbilical, the left hypochondriac and lumbar regions. Examination showed this to consist of the mesentery, which was immensely enlarged, and as hard as cartilage. It was irregular in shape, and involved in the disease was the left kidney, enlarged to the size of a cocoanut, and very hard. On

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section its tissue was dense and fibrous, no trace of kidney structure remaining. The right kidney was enlarged, but upon section the structure was normal. The small and large intestines were completely devoid of fat, and had a thin and shrunken appearance. The other organs were normal."

Dr. Chew took the specimen to the John Hopkins University to have it examined microscopically. It was the intention to exhibit it to this Academy with this paper, but unfortunately the specimen has been lost.

Case 2.—H. Sardine, aged about 65, whose disease was of more than a year's duration. He was a private waiter, temperate, well and comfortably provided for, and no adequate cause could be assigned for his sickness. His early symptoms are indefinitely described, but consisted for the most part of constant and deep-seated pains in the abdomen, with constipation. When the bowels were forced by purgatives the pains increased, and toward the last were principally in the rectum. For these reasons, and also from the character of the moulded fæces, the diagnosis of his physicians was "stricture of the rectum."

Dr. Nathan Gorter, assisted by Dr. Claude Van Bibber, made the post-mortem examination of this case. Their detailed report of the autopsy is long and minute, so that those points only which apply to the subject now under consideration will be given. The report says: "The mesentery was the part most completely involved in the disease. It was harder than cartilage, and equally without vascularity. It was four inches thick and twelve inches broad. It pushed the other viscera from their situation *in situ*. The meso-colon was largely diseased, as also the meso-rectum, which gave reason for the diagnosis of "stricture of the rectum."

Case 3.—Mr. F——, which I reported in the "Transactions" of the Medical and Chirurgical Faculty of Maryland in 1876. The diagnosis before death was "cancer of the omentum." The autopsy was made by Dr. C. F. Bevan. A synopsis from his report says:

"The omentum was small and atrophied; stomach, liver, spleen, pancreas and kidneys normal, small and large intestines normal except in size and color. They were thin, shrivelled and wasted, and of a peculiar pink hue. The mesentery alone was diseased; it was three inches thick by fifteen inches broad. Microscopically, in consistence it was harder than the hardest cartilage. No trace of a single vessel in it could be found. Microscopically it was examined by Professors

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Bevan and Tiffany. The cells found were of a mixed and undefined character."

I have not been able to find any case like this on record, and more will be said of it hereafter.

There are three cases and three autopsies. The scalpel revealed three cases of cancer of the mesentery.

There were three mistakes in diagnosis. One case was mistaken for abscess of the spleen, another for stricture of the rectum, and the third for cancer of the omentum. The object of this paper is to show, if it is possible, how cancer of the mesentery may be recognized with greater certainty.

So far as my study of the subject has gone this is a point which needs elucidation and authority.

Without tracing the subject further back than 1855, the date of the issue of "Copeland's Medical Dictionary," which was supposed to be the most comprehensive book of its time, I fail to find in it, or in any of the many excellent systems or compendiums of the Practice of Medicine which have been published since, or even in any of the special works upon diseases of the abdomen, any detailed assistance towards the "differential diagnosis of cancer of the mesentery." It is casually mentioned in some of the authorities, but not especially dwelt upon.

Yet I cannot assert that much more than I have been able to find may not yet be contained in the wealth of the National Library, or referred to in the "Crœsus" pages of the Index Medicus.

He who has more of the excellent and exceeding virtue of the Patriarch of old than I have, or whose days go further towards the days of the son of Enoch than any of us can expect to go, must complete the search and correct me if I am wrong.

The suggestions which will now be made concerning the differential diagnosis of cancer in the mesentery and the points to which attention will be called are, the frequency of the disease, some of its anatomical peculiarties, its duration, its symptomatology and pathology.

One point to be taken into consideration in the diagnosis of any disease is its frequency. The importance of any disease, in general practice, is also measured, in some degree, by its frequency.

In what proportion of the cases of abdominal disease mesenteric cancer occurs is, as yet, not numerically established. The data

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which I can give, or have been able to collect on this point, can scarcely, as yet, be considered as even a basis for conjecture.

The number of autopsies which I have made in my own private practice, together with those at which I have assisted in the private practice of others, amount to 152. Of these three deaths have occurred from malignant disease of the mesentery. But this will give no real data for the proportional frequency of this disease, because the autopsies made in private practice are only occasional opportunities and are principally of recondite cases, of which a diagnosis during life was most difficult.

Of the 152 post-mortems 68 were of abdominal diseases. In 1 the mesentery alone was affected. In 2 the mesentery was so much more affected than any other organ that it was reckoned as the cause of death. In 7 other cases the mesentery was, more or less, involved in the malignant disease. This gives for the 68 cases 14.7 per cent. of mesentery disease. This may be considered too large a proportion for abdominal diseases generally; but it is intended to approximate to the proportional figure for malignant diseases of the mesentery when other abdominal organs are involved.

The next point to which attention will be called is, what assistance can be obtained for the diagnosis of mesenteric cancer from a study of the anatomy of the part?

It will be admitted, upon reflection, that the means to be commanded and the physical explorations which can be used to facilitate the diagnosis of disease of the mesentery are necessarily limited. The exclusion of other diseases holds a more prominent place in this than in the diagnosis of almost any other organ. Otherwise than by exclusion the diagnosis must be made entirely from symptoms which must be studied.

In order to show this important point more clearly, let me recall to you a few points in the anatomy of the mesentery. M. Sappy, who is high authority upon the anatomy of the viscera, says: "In measurement the plane of the normal mesentery is not larger than the hand. It is six inches long by four in width. It is a membraneous pedicle to which the convolutions of the intestines are attached upon its moveable border. This pedicle, of an irregular quadrilateral figure, extends from the left side of the second lumbar vertebræ to the posterior border of the cæcum. Its direction is not vertical, but a little oblique from top to bottom and from right to

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left. It is highest in the middle part and arches to its extremities. Firmly attached posteriorly, it undulates with a fluted border, and has been compared to a fluted cuff, the outer edge of which bears, like a ruffle, the small intestines from the jejunum with the ilium to the cæcum. The mesentery is formed by a folding of the peritoneum two blades, upon each other. Between these blades, from the base of the pedicle, run voluminous arteries, corresponding veins, lymphatic ganglions and a quantity of cellular tissue. Such are the parts which compose this membrane." The anastamoses of the arteries are free and numerous. They anastamose with the colic, the sigmoid and the hæmorrhoidal arteries.

A knowledge of its anatomical peculiarities, as compared with those of other organs, may assist the study of its diagnosis in disease.

It is important to observe that, as a pedicle, the mesentery is attached behind to a thick and hard base, and cannot be approached by the sense of touch from any direction. It is not possible to reach it by sight or sound, therefore the senses are excluded from our means of diagnosis.

In order to show yet more clearly the difficulties to be encountered in the diagnosis of disease in the mesentery, let it be compared, in this respect, with the diseases of the viscera in the other three cavities of the body.

In the encephalon, some of the means now relied upon for a diagnosis, are the knowledge possessed of the localized functions of the separate parts of the two brains, together with the tracings of the nerves which go out from these organs. This, in its entire embrace, is one of the most absorbing studies of the day, and is being advanced with industry.

The means for the diagnosis of the diseases of the viscera within the cavity of the thorax are amply facilitated by four of the senses.

The viscera in the cavity of the pelvis, by the same, and even more largely assisted by other means, especially by instruments.

But the changes which occur in the mesentery cannot be thus aided by physical exploration. Other means must be relied upon.

What is the function of the mesentery? Although it is necessary to the support of human life, it has no active function. It simply serves as a support, or a table, for the transmission of vessels going to organs which sustain life. When a free flow through

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these vessels is being gradually obstructed, health must be impaired, and finally, when completely obstructed, life must be extinguished. A knowledge of what changes may occur while this process is going on is worthy of study, and, to assist in demonstrating this point, there are three prominent analogues of similar pedicles and pediculated bodies to be found in the human body. These are the roots of the lungs, the spermatic cord and the ovaries. It is scarcely within the range of fair anatomical definition to speak of the neck as the pedicle of the head, although in certain diseases of the neck the circulation of the blood in the head is impeded.

The lungs have no vascular connection with the body except through their roots. They are otherwise completely isolated. All that enters into the parenchyma, or substance of the lungs, in health or in disease, or what is removed from them in this latter condition, must pass through the roots of the lungs. Diseases in the roots, as well as in the substance of these organs, may be recognized by various means of diagnosis, and it is known that when the disease involves the root, the body of the organs beyond suffer in a peculiar manner. The peripheral circulation, both of ingress and egress, are impeded, and those who treat diseases of the lungs with these facts before them, have advantages. In pneumonia, for example, how can the masses of plastic deposits be removed except through the roots of the lungs?

The same may be said for the testes and the spermatic cord. I am now treating a case in which the circulation through the spermatic cord of the right side is nearly obliterated, and the testicle upon that side is correspondingly affected.

The diseases of the uterine ligaments, which transmit vessels to the ovaries, are sometimes difficult to diagnosticate, but these are more easily reached than the mesentery, and the rules which govern the diagnosis in the one case cannot all be applied to the other.

Duration of the disease. There is but little certainty as yet upon this point, because there are not enough cases collected from which to obtain an average. It may be said, as a rule, that cancer is a disease of long duration. In my own cases, all three of them were under treatment more than a year. The nearest approximation to which I can arrive is forty months for the three cases. This gives an average of 13.3 of a month for each case. The difficulty consists in not being able to determine the initiation of the disease.

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By what train of symptoms, when grouped together, may the disease be first suspected?

A rule which may be applied to the answer of this question may be expressed somewhat in this way. Granting that an existing disease, in any individual, can be fairly located in the abdomen, then, if it be obstinate, unrelievable and progressive, malignancy may be suspected or inferred. Again, if in the progress of the disease the symptoms do not show by well-known pathognomonic and individual symptoms that other organs are involved, as, for example, the stomach, the liver, the pancreas, spleen or kidneys, then it may be inferred that some rarer form of disease exists. Such a train of reasoning may, by being closely followed, finally lead up to the opinion that there is cancer of the mesentery.

What are, besides these, its own pathognomonic symptoms? The three cases which I have reported had one symptom in common. But the third case, given, viz: that of Mr. Fondriat, is remarkable. So far as I can find out, it stands solitary and alone, in the fact that the mesentery was the only organ found involved in the malignant disease. The post-mortem was made most carefully and in the presence of many experienced physicians, hence the history and prominent symptoms of this patient may be interesting. He was 68 years of age and of a strong and healthy figure. His occupation had been formerly a distiller and latterly a lace-finisher. He had always been temperate. His symptoms, from the beginning to the end, were those of an aggravated and increasing indigestion or dyspepsia. He had constant uneasiness in the abdomen and many acute and prolonged pains. These pains were always referred to the region of the mesentery. The most painful symptom was an obstinate constipation. For the relief of this he used powerful purgatives and enemas. The action of these remedies was invariably attended with intense suffering, and generally with the expulsion of a small amount of fœcal matter. He had disturbed sleep, anorexia and emaciation. He had, beside these, many other wandering pains, but the great peculiarity of his pain, and also that of the other two cases, was that of being deep-seated, constant, sometimes acute and lancinating in character, at other times dull and wearing. These pains were always referred to the region of the mesentery. Under anodynes the pain would be ameliorated, but only to return as the anodyne effect wore off.

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This is what may be said for the symptoms; concerning the pathology, the third case reported may be considered a rare opportunity and a treasure. The mesentery was the only organ involved. It is a solitary case, consequently the pathology of the disease, so far as I can give it from my own knowledge, must include only this one case. All the other cases had complications.

It was well put by Prof. Bevan: "The small and large intestines," he said, "were normal, except in size and color they were thin and shrivelled and of a peculiar pink hue."

This might have been anticipated from the nature of the disease. All blood supply and vital activity had been cut off from the intestines.

The same fact and illustration of the same principle may be seen in nature every day. They may teach us.

A full-blown flower, when the circulation of its sap is impeded by a disease, or a break in the stalk, shrivels and changes its color as it dies.

There is another law supposed to govern the frequency of cancer in the abdominal organs which should be mentioned. It is this: that the abdominal organs are attacked with malignant disease in numerical frequency according to the supposed activity of their physiological functions. Thus, first the stomach, then the liver, third the intestines, and of these latter the most frequent points for malignant diseases are the cæcum, the sigmoid flexure, and lastly the rectum.

Judged by this law of function alone, malignant disease of the mesentery might reasonably be expected to be of rare occurrence.

Concerning the diagnosis of cancer of the mesentery, I have shown that in frequency it may be expected in 14.7 per cent. of all malignant abdominal diseases. If it is thought that this is too large a proportion, time and further observation will prove it to be so.

It must be remembered that this is an approximation to the number of cases where the mesentery is involved in the malignant disease together with other organs, not where it is primarily affected and the sole organ diseased.

I have endeavored to show not only how a study of its anatomy as a pedicle, and its use as a support for the circulating vessels of the intestines, may assist in the matter of a diagnosis, but I have

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tried also to show how its study, together with its analogues, as a pedicle, may illustrate many practical points of interest and usefulness.

Further than this I have shown what character of pain may be expected to demonstrate the disease and how the diagnosis may be facilitated by a careful study of the character of the pains.

In the single case, which has been brought forward so frequently, it is believed there is not one like it upon record, and it well deserves to serve as a starting point in the study of the differential diagnosis of cancer of the mesentery.—*Maryland Medical Journal.*

MEDICINE AND PHARMACY ABROAD.

Read at the Third Annual Meeting of the New York State Medical Association, held in New York city, November 16th, 1886.

In all the nations of civilized Europe this interest is recognized as being of superior importance, and is under more or less of legal and moral restraint and control. In no nation, not even in Great Britain, is this interest so nearly a free trade as in this country. The theory is that all governments, that of this country included, have laws for the protection of the people against the pretensions and deceptions of quackery, and deficient knowledge and skill in the important art of medicine, but certainly in no nation has this art become debased so nearly to the level of the money-making trades as in this country; and Great Britain seems to rank next in this unenviable debasement, while Denmark and Sweden seem really to have the interest under the best practical control. Not that the science of medicine is as advanced in these nations as in Germany, for example, nor the art practiced with so high a degree of knowledge and skill as in England and this country, but it is simply under better control, and therefore the people's interests in it are better protected.

In counting the physicians' offices in the large European cities, and trying to compare the numbers with those of Boston, New York, Philadelphia and Baltimore, it seemed to the writer that in the latter cities the numbers were more than double. In the European cities street after street of those occupied as residences would be traversed

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with but one or two doctors' signs, or with none at all. And among the few signs the number of comparatively new ones was very small indeed. From occasional glimpses into these offices, or at least into the front rooms, through open windows, they were judged to be very plainly furnished, hardly what would be called comfortable, and never luxurious, whilst the absence of any degree of ostentatious display marked the infrequency of the quackish class. The number of physicians' vehicles that could be in any way identified as such, in the streets during the customary hours for visits, was so small that a pretty close scrutiny was needed to find them at all. Indeed, the conclusion was reached that in those cities physicians must generally walk or use public conveyances, and this conclusion was strengthened by seeing that visits to patients at hotels were commonly made on foot.

There is no such thing as recognizing these physicians as a professional class, and the very few seen that were identified by circumstances were very plain and simple in dress and manner, and in dignity of bearing hardly supported the importance of the profession. Some indication of their popularity as a class, or of the general impression of their utility to the public, was sought for in vain; nor was it practicable to ascertain how far their counsels extended among the masses, how far they were accepted, or how far their instructions were carried out, but from slight indications it is supposed that their standing and influence is greater than in this country. And this should be true if for no other reason than that their art is practically free from the debasing competition of advertising quackery and nostrums.

The pharmacies of European cities offer a much more striking contrast to those of this country. In England and Ireland they appear to be similar in character, but perceptibly less numerous. In Scotland they are less conspicuous and less numerous than in England, and in France the character and number are still further modified for the better. But it is in other European cities that the contrast becomes most marked. As a broad generalization it may be that in number they reach one-third of the number in this country, but probably not over one-fourth; but the contrast in character and appearance is still more remarkable than in number. Never near together, they are commonly in prominent locations, and not uncommonly appear to occupy the whole of a small building. No show window, nor colored bottles, nor any other form of display. Windows of ordinary size and character, and used only to admit light, except that they may occa-

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sionally have one or two growing medicinal plants. No glaring nor large signs anywhere, but generally a small one over the entrance door with the name of the proprietor, and the word "Apotheke." Inside the door is a clean, clear space occupied by a few chairs. Then a very simple counter without show cases, and without furniture, or with one or two scales of large size. Behind the counter, and with their backs towards it, are from one to four clerks, each with a prescription scale and measures, engaged in putting up prescriptions or orders. Besides these, the proprietor or his representative appears to be engaged in receiving those who enter, and in superintending the work of the clerks. As a general rule males who enter remove their hats as soon as the door is passed, and remain uncovered until they are served and go out. In many visits to such pharmacies very few verbal messages were noticed, almost all messengers bringing written orders or prescriptions, though they often received only a single article. The proprietor or disengaged clerk receives the order and invites the bearer of it to sit down, and not once was a messenger seen to sit down without being invited. Often not a word was spoken until the order was supplied and presented, when the clerk would mention the price, or the messenger would ask for it, and as a rule conversation seemed to be avoided. The clerks were generally of mature age, intelligent-looking, personally clean and well, though very plainly dressed. The furniture and apparatus was clean and in good order, but clumsy, and there was a notable absence of gaudy over-gilt labels and ostentatious decoration of any hing, everything being plain and substantial, even to ugliness and clumsiness. Not a patent medicine card, nor any proprietary article in sight, and no perfumery, fancy goods, soaps, cigars, wines, waters nor soda fountain in sight. In short, the whole pervading tone was of quiet, earnest and accurate work of a high order, carefully done, and this tone gave a dignity and an honorable rank to the whole place. The writer commonly made an errand of buying a few grammes each of ether, chloroform and carbolic acid, articles the quality of which could be fairly judged by their sensible properties, and such purchases gave access to the pharmacies and opportunity to observe the work. The first of these orders was given in Copenhagen verbally through a clumsy mixture of bad French and worse Latin. The clerk, a very young man, very respectfully suggested English, in an excellent specimen of that tongue, and never after was the writer again caught in the same way, and this led to the observation that,

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with very few exceptions English was spoken and understood in the pharmacies of Europe.

The articles bought were often of very good quality, and never of bad quality, and were uniformly dispensed quickly and neatly, but never elegantly.

The general conclusions reached by these observations were, that in the United States there is a class of physicians who, in ability, knowledge and skill in the application of their art, are not excelled by any similar class in Europe, but that in this country this class is so diluted and obscured by the much larger class with superior pretensions and inferior knowledge and skill, who keep themselves so prominently before the public, as to overshadow the better class and give a superficial appearance of inferiority to the profession as a whole.

By the uncontrolled multiplication of graduates of medicine here, the profession is overcrowded with indifferently educated men far beyond the demand or necessity for their services, and far beyond the proportionate number in any other nation. If this struggling surplusage and its influences be subtracted, the profession of medicine in this country is probably nowhere excelled.

The condition of pharmacy in the United States appears to be fairly parallel to that of medicine. In no country are there any better medical supplies than in this, and in none are these better managed and dispensed for use than in this. Indeed, with respect to both quality and management, there is a strong probability that there is a superiority here. But, there is certainly no country more abundantly supplied with bad drugs, nor with the ability and skill to put them in the place of good ones. In most European countries pharmacy is so controlled that it is not very easy to get bad medical supplies, while in this country, with pharmacy almost uncontrolled, it seems not very easy to get good ones. With good and bad material in equal abundance, the pharmaceutical ability and skill which constitutes good pharmacy in the one case makes very bad pharmacy in the other, and against this last the European control measurably protects European physicians and their patients. Here there is probably better pharmacy and more of it than there; but here there is an enormous amount of bad pharmacy to contrast with a very little there.—*An Ephemeris of Materia Medica, etc.*

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REMOVAL OF THE UTERINE APPENDAGES AND THE LIVERPOOL HOSPITAL FOR WOMEN.

The question of the removal of the uterine appendages has a distinctly ethical as well as surgical aspect. The former is growing in importance, if we may judge by the increasing frequency with which this phase of the subject is discussed in medical literature, and by some distinctly practical results of a decidedly unpleasant character, which have occurred both in this country and Great Britain.

One of the secondary outcomes of this question has been engaging the attention of medical men in England the past year, in connection with the Liverpool Hospital for Women, and though the final stage may not have been reached, yet it may be of interest to briefly review the course of events thus far.

Dr. Francis Imlach, one of the surgeons to the Liverpool Hospital for Women, performed an operation for the removal of the uterine appendages in a case of intra-peritoneal hæmatocele. The patient recovered, but subsequently sued Dr. Imlach on the ground that the operation was unnecessary and performed without knowledge on her part of its nature. The case came to trial in August, 1886, and after the evidence on both sides was in, the jury, without leaving their seats, returned a verdict for the defendant.

In February of the same year, whether, which is probable, because the fact of this suit having been brought was known, or for the reason alleged that the number of operations included under the term abdominal section, had risen from eighty-six in 1884, to one hundred and sixty-six in 1885, and such increase was considered "remarkable," a committee was appointed by the Liverpool Medical Institution to inquire into the matter.

The resolution under which the committee was appointed stated that, "In view of the large and increasing number of cases of abdominal section in the Hospital for Women in this city, as shown by the Annual Medical Report for the years 1884–'85, this meeting is of opinion that a special committee be appointed for the purpose of investigating the grave question of practice and ethics involved in the performance of these operations, and to report at a future meeting." The committee was composed of eight surgeons and physicians connected with the large hospitals of Liverpool.

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Just what relation the Institution holds to the medical profession in Liverpool, and with what authority such an investigation into the methods of a hospital could be prosecuted, we have no means of knowing. It is said that the "medical staff of the Hospital for Women present took an active part in the discussion and voted for the proposed committee," and that "at a subsequent period it was deemed right that the medical officers of the hospital should each, if they wished, send a representative to the committee to watch their interests." Suffice it to say the committee did make a thorough investigation, the results of which are embodied in a report published in the *Lancet* of December 11, 1886.

The plan of investigation included the reports of the medical officers of the hospital, supplemented by notes of the condition of the patients as ascertained by subsequent visits; information received from medical practitioners in and around Liverpool, who had patients under their care either before or after operation at the hospital; personal visitation of some forty or fifty patients by members of the committee; certain specimens of ovaries and Fallopian tubes removed by Dr. Imlach; the appointment of a sub-committee to personally examine the hospital records and question the lady-superintendent and nurses.

As a result of their investigations they found that there had been one hundred and six abdominal sections performed for the removal of the uterine appendages. Ovariotomy, exploratory incision and oöphoraphy, which comprised the rest of the one hundred and sixty-six, did not call for any special comment.

With regard to the first series, the committee arrived at the following results: (1) Danger to life. The mortality was eight or nine per cent., and the committee sagely concludes that if the operations were done for grave disease, and the patients were generally cured, such a mortality was not high, but if done for trivial affections, and the patients were generally not benefited, it was. (2) Sterility. As this is a necessary result of the operation, it should be clearly explained to the patient and her relatives. (3) Loss of sexual feeling and of physical energy. The committee found a comparatively small number who complained of these effects. (4) Hernia. Out of one hundred and sixty-six cases, fifteen were found in which hernia resulted. (5) Actual results to the patients. The committee found distinct and permanent benefit in about half the cases,

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slight or temporary benefit in nearly as many, and positive injury claimed in a few.

In view of the above facts, the committee were of the opinion "that at the Hospital for Women sufficient care and discrimination had not been exercised in the selection of cases for operation, and that in many instances the gravity of the symptoms was not such as to have justified an abdominal section of any kind." They recommended consultations before any abdominal operation, full information to patients of the nature and consequences of the operation, and longer retention in the hospital after operation.

Dr. Imlach, whose unfortunate lawsuit was apparently the "*fons et origo*" of this investigation, and against whose methods the criticisms of the committee were mainly directed, inasmuch as he performed eighty-five out of the one hundred and six operations, has sent a letter of protest to the *Lancet*, which is published with the report of the committee, and it is only fair to briefly outline the points he makes. He claims that the committee was not composed of men who could fairly be supposed to be unprejudiced; that he wished to be represented on the committee by a pathologist, but the one he selected declined, as he did not approve of the method of appointment of the committee; that the disease for which he performed the operation in the case of the patient who subsequently sued him, though held by the committee not to be one for which abdominal section should be performed, is regarded by most leading gynæcologists as liable to develop grave or fatal symptoms, and to be one for which laparotomy is frequently indicated; that the question of the justifiability of the operation depends upon the severity and persistence of symptoms and the pathological changes found in the organs; and that the committee failed to mention that he had "treated sixty-seven cases of inflammatory disease sent in with a view to operation, solely by rest and medical means." There are many minor points which Dr. Imlach alludes to, which seem to indicate pretty clearly that the investigation, though apparently thorough, was not conducted in a spirit of perfect fairness towards the surgeons of the hospital.

What is the general impression conveyed by this whole transaction? What good has it accomplished or can it accomplish? It may serve, perhaps, to emphasize more strongly certain secondary considerations in connection with operations of this character, such

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as the importance of not operating until other means have been tried and failed, the advisability of the patient and her friends thoroughly understanding the nature and results of the proposed operation, and the help in estimating the value of the operation by keeping the patient under observation for sometime after it. But when we consider the class of patients who present themselves at large public hospitals with this class of affections, women for the most part ignorant, many of them degraded, often with a distinctly nervous element predominating, it seems absurd to suppose that any investigation which depends largely upon the statements of such women for its facts, should be considered a suitable way of arriving at just conclusions.

Had the committee been able to question and examine these women before operation, and to see the specimens when removed, then their decisions would have been entitled to respect. The first they were of course unable to do, and the second they seem to have neglected in the cases which they might have examined, as no mention is made in their report of the pathological specimens laid before the committee by Dr. Imlach. In fact, this wise body of men seem to have expressly acknowledged the weakness of their position in this clause of their report: "The committee regret that from a scientific point of view they are unable to give any very definite assistance to the medical profession in judging of the class of cases appropriate for the operation under consideration, in advance of what is already known and admired," and yet they condemn these surgeons for having in many cases operated unjustifiably. Candid men must judge how fair such condemnation is. Our verdict would unhesitatingly be, "Not Proven."

While it is true, as has been intimated above, that the attending surgeon at a woman's hospital cannot be too circumspect in advising any radical uterine operation, without making sure that the patient is fully informed as to the actual nature and potential consequences of the operation advised, it is also true that committees of investigation, and other persons who may be placed in the position of critics, cannot exercise too much care against making any report which may increase the grave perils to which the practicing gynæcologist is already exposed from designing women.—*Boston Medical and Surgical Journal.*

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A WORD OR TWO ON WARM CLOTHING.

At a time when there is "a nipping and an eager ear" the question how to keep warm presents itself in many urgent phases. In the matter of properly clothing the body, or, in other words, of conserving animal heat, the physician is consulted as much as upon any point within the range of hygienic requirements.

There is no doubt that wool stands at the head of the materials out of which clothing is made. Its virtues depend upon its being a poor conductor of heat; its porosity, allowing the passage of the exhalations from the skin; its power of absorbing moisture and giving it up slowly and gradually.

As a non-conductor of heat, woollen materials have been shown by exact experiments to rank first, although with them must be placed certain furs and the down of birds. After these come silk and cotton, while linen ranks last.

The porosity of flannel, as compared with that of other materials has also been determined by experiments showing the pressure required to force air through them. Flannel is nearly twice as porous as linen, more than twice as porous as silk, and seventy times as porous as glove-leather. Both flannel and silk take up water slowly and give it up again slowly. Owing to the openness of the texture and the hydroscopic power of the fibre, a considerable amount of water can be held in its meshes; more than twice as much, in fact, as can be taken up by cotton or linen. The slow evaporation of water from flannel, as compared with linen, is well known and often observed. Rags of linen, not flannel, dipped in water, are used to cool the fevered brow or allay an inflammation. Linen imbibes moisture most quickly, cotton next, and wool last.

Woollen clothing is universally used by athletes during exercise. This is a good plan if, as is the rule, thin flannel is used. In very hot weather linen or cotton, however, is better during the exercise. After exercise the body continues to perspire, and the perspiration, becoming vaporized, cools and may chill the surface. If dry flannel is not put on, however, the vapor is condensed in its meshes, the latent heat restored and an agreeable feeling of warmth results.

Woollen clothing is not so good as leather and fur for those exposed to cold winds. Our country readers in the North know well the comfort, and even necessity, of buckskin jackets and fur coats.

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Woollen clothing promotes the activity of the skin; and it is much revered by the rheumatic, with good reason. Redness in flannel is supposed to give it additional virtues.

Red flannel is generally an irritating material, owing to its coarseness and sometimes to the dye. This more or less peppery quality furnishes the sole basis for its popularity.

The color of a fabric affect its properties as a material for clothing in two ways: the absorption of heat and of odors. Cloths absorb heat and odors in the following order: black stands first, then come blue, red, green, yellow, white.

The wearing of flannel is believed by some to lessen the risks of malaria. That it does so, except in a very indirect way, is improbable, though Parkes is inclined to give some credence to Andrew Combe's opinion in favor of this view.

Many persons cannot wear pure wool next to the skin, owing to its slightly irritating properties. For these silk is perhaps a tolerably good, though a most expensive, substitute. A combination of cotton with the wool can be all but too easily found, which sensitive skins can easily endure.—*Medical Record.*

THE COMING TREATMENT FOR PHTHISIS.

The treatment of phthisis by medicated gaseous enemata, devised by Dr. Bergeon, of Lyons, has recently received the attention and measured approbation of Dr. J. Henry Bennett, who gives a full account of it in the *British Medical Journal* of December 18, 1886. We have already explained the general principles of Bergeon's method. He found that carbonic acid gas introduced into the system by the veins of the intestines was harmless, painless and without special medical effect; in other words, it was a practically inert gas. He then medicated this with sulphuretted hydrogen, and the medicated gas was injected per rectum. The sulphurous gas was eliminated by the lungs, causing remarkably beneficial effects.

Dr. Bennett says: "Dr. Bergeon claims marvellous therapeutic effects for this medication. He says that he has been applying it for the last two years to all the cases of chronic pulmonary and

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throat disease that have come under his observation; indeed, in more than two hundred cases, although the experiments were made at Lyons, where the climate is bad, the results have been successful to a degree that has surprised and astonished him. He says that, in early phthisis, even in acute general phthisis, a form of the disease nearly always rapidly fatal, in two or three weeks there is generally an arrest, and in a few months a cure. Even in advanced, incurable phthisis, great amelioration is obtained. The pulse is lowered, the temperature falls, the night-sweats cease, the appetite returns, the expectoration rapidly diminishes, losing its purulent character, and the cough becomes less harassing and frequent. The amelioration, he says, is also rapidly obtained in advanced laryngeal phthisis, when all local or constitutional treatment has failed to give ease, or to arrest the ulcerative process. Asthmatic attacks are relieved with more certainty than by any other means, including the hypodermatic injection of morphine.

"These are very marvellous statements; but, coming from a scientific man of mature age, occupying a prominent orthodox position in a great medical centre (Lyons), and brought forward as the result of several years of trial and observation, they must command attention and counter-trial. Certainly, to pass from eight to ten or twelve litres of medicated gases through the intimate structure of the lungs several times in the twenty-four hours, is a tangible reality, and a new departure in thoracic therapeutics. The entire structure of the lung is certainly reached; both the healthy and the morbid tissues are thoroughly searched out and permeated."

Bergeon has communicated his views to the Paris Académie de Médecine, and his method has been tried "with unexpectedly favorable results" in the hospitals of Paris and at Lyons.

The injections are made twice daily. At first only about one litre of gas is used; and this amount is steadily increased. Great attention to details is needed; the sulphur must be pure, and no atmospheric air must be admitted.

Dr. Bergeon's method is novel, and with so many strong endorsements it plainly deserves an extended trial. It is not one that can be widely used at present, owing to the care and time needed for its application.—*Medical Record.*

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., "
} Editors.

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THE REPORTS FROM THE SECTIONS IN THE STATE MEDICAL SOCIETY.

We are glad to know from Dr. Bahnson that he has appointed Dr. W. P. Beall, of Greensboro, as leader of debate for the coming session of the Society. The plan which the appointment puts into motion was the wise suggestion of Dr. Graham at the New Berne meeting in 1886. We are not yet informed of the subject which Dr. Beale will present to the meeting, but that it will interest the Society and be worthy of honest discussion, we feel sure. The whole system of

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reports from the sections seems to us to need careful revision. The purpose for which these sections were organized was to provide the meetings of the Society with a digest of the year's work in the different departments of medicine, and through these sections to offer to the members generally an opportunity to bring in essays or clinical histories as contributions to the sections, as they might choose. The result to be gained was systematizing of the literary work of the session, and the opening these reports would make for general discussion under the stimulus of the reports. The second of these objects has in no case been obtained, and the first has been defeated too often, because the chairmen have frequently strayed off from the path indicated, drawing too largely upon standard text-books which are not so recent as to be possessed of novelty and interleaving their work with much personal matter, to the exclusion of well studied abstracts of the contributions that have marked the world's work in medicine, so abundantly recorded in the periodical medical literature. The consequence has been, as we have intimated, that no discussion has ensued upon the reading of these reports, and they have been formally referred to the Publication Committee with thanks. We feel sure that, along with the resolution of thanks and reference, has often gone a feeling that the authors of the reports have not come up to the full measure of their own capacity or to purposes for which these sections were organized. Such, we are told, was the feeling of the originator of this plan, and his ideas in instituting it was as we have indicated.

We suppose that it was to cure these discursive reports that the suggestions for regulating debate were made by our last President, Dr. Graham, in his message. While we do not pretend to sit in judgment upon the reports from the sections, the refusal of the Committee on Publication to issue all of the papers sent in to them must be construed into a grave condemnation of the system. Of late years the authors of these reports have been led into the errors we have mentioned by the example of their predecessors and encouraged by the reception which has been accorded chairmen of sections of previous years. We believe there is good in the system, but a new mode of reporting for these departments must be introduced and adhered to—one more in accordance with methods of the American Medical Association—after which our system was modeled.

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THERE will be two vacancies in the Board of Health to be filled by the Society at the coming meeting by the expiration of the terms of Dr. R. L. Payne, Sr., and Dr. John McDonald.

OUR ADVERTISERS.—As has been our custom for several years past, we offer our services in distributing to the members of the North Carolina Medical Society, at the regular annual meeting, any circulars or samples sent us for that purpose by advertisers in this journal. Packages must be directed to the NORTH CAROLINA MEDICAL JOURNAL, Charlotte, N. C., which place they should reach by the 13th of April next, the first day of the session. There will be, probably, 250 members present.

DR. BAHNSON writes us that it is probable that Drs. D. Hayes Agnew, of Philadelphia; Robert Battey and Henry F. Campbell, of Georgia, and Hunter C. Maguire, of Virginia, will visit our State and be present in Charlotte during the session of the Society, and to these we hope in our next issue to add the names of Drs. W. T. Howard, of Baltimore, and O. F. Manson, of Richmond. They will all be welcome visitors, and will add great interest and value to the discussions which will take place during the session.

REGISTRATION OF MEMBERS AT THE MEETINGS OF THE SOCIETY.—The incessant calls upon the time of the Secretary during the session of the Society makes it quite impossible for him to be accurate in making up the roster of members present at each yearly meeting. We hope, therefore, that at Charlotte and thereafter, if the plan succeeds, a book will be opened in which each member present shall write his name and postoffice. This plan will do away with all cause of complaint that members who were present at meetings have not been so reported in the printed "Transactions."

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REVIEWS AND BOOK NOTICES.

A Manual of Operative Surgery. By Joseph D. Bryant, M.D., Professor of Anatomy and Clinical Surgery Bellevue Hospital Medical College, etc., etc. D. Appleton & Co.

Dr. Bryant has certainly justified in this book the frequent demand for a publication of the lectures which he has delivered as a teacher of operative surgery. He has discarded, very wisely, all allusions to methods of surgical practice which are doubtful or of unfixed value, and the book is the more reliable for this and from the fact that personal experience of the author is generally his safe guide in the choice of procedures which he recommends. This does not, however, prevent him from fairly presenting all other modes to which he can with safety give his commendation.

A chapter devoted to "General Considerations," in which the outline of the work of a surgeon is set forth, is a very useful beginning, and to the student will serve as a safe guide, and to the older surgeons be a good remembrancer.

The control of hemorrhage is discussed in a full chapter, in which the author says that catgut is the equal in security to any form of ligature, no matter what the size of the vessel to be tied may be. We had not so read the experience of the masters in the art, but we confess that, after reading all of Dr. Bryant's book, and noting his carefulness of statement, we are disposed to accept his dictum as being worthy of great consideration.

His belief in the control exercised over wounds by the adoption of the most rigid antiseptic methods is expressed in no doubtful words, and he everywhere declares this one of the necessities for the successful treatment of wounds.

The directions for the ligature of arteries are sufficiently full to be all that is desired, and the notes he sets out are clear and distinct. The chapter on "Operations on the Veins and Capillaries," which gives the directions for treatment of one of the larger veins cut in an operation, which should be ligated at once at each end, contains, likewise, a study of the methods advisable for the cure of hemorrhoids, in which the preference is expressed for ligature of the vessel over the operation of crushing, or excising. He does not think well of the in-

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jection of these hemorrhoidal masses with carbolic acid. This latter plan has such enthusiastic advocates and has been so easily successful, that we are disposed to attach more importance to its value than does our author. Cerebral localization being a recognized factor in diagnosis of injuries of head, receives full attention from the author. The operative steps in the excision, stretching and division of nerve is amply treated, and suturing the divided nerves is insisted on if possible, with a promise of good results. In the treatment of scalp injuries, and especially in the operation of trephining of the skull, the most careful appreciation of antiseptic treatment is insisted on.

There are several chapters devoted to the exposition of "Operations on "Tendons, Fasciæ, Muscles and Bones," and they are clear and full, including all the best methods of practice in this department. This division of the work takes up deformities and the treatment of plastic surgery.

We find that Dr. Bryant does not think it good practice to inject the sac for the cure of hydrocele, but prefers to open the sac and cut away any excess that may appear after emptying out the fluid. Of late, we have seen such good results follow the use of injections of carbolic acid slightly diluted with glycerine into the sac, after drawing off the fluid, that we must express our surprise at the opinion of so competent a surgeon as Dr. Bryant.

We wish it was within the limit of this review to go over the contents of this Manual more fully. The text and illustrations are both most excellent, and the copiousness and precision of the latter add much to the value of the book to the surgeon and student. Of these illustrations, many are entirely new, being original with the author, and others he has taken from standard works. The book will enhance the reputation of its author and be a valuable addition to the surgical volumes in the libraries of medical men, as well as a safe guide to the student who is in search of a complete manual of such surgical operations as are not included in the special works on gynæcology and diseases of the eye and ear need such interference.

A Treatise on the Diseases of the Nervous System. By Wm. A. Hammond, M.D. Eighth Edition. D. Appleton & Co.

This work has been before the profession so long and has appeared in each edition with all those improvements and new matter added that so rapidly accumulate in the study of nervous diseases, that an

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extended notice is unnecessary. Following in issue the last volume of "Pepper's System of Medicine," this last edition of Dr. Hammond's work has its merits more clearly set forth by comparison with that fine exposition of the same subjects, and parallel readings in the two works will be an instructive study. We notice that Dr. Hammond added a new section to "Certain Obscure Diseases of the Nervous System," and under this heading has introduced a chapter on Tetany, an obscure nervous disease, which may be characterized by extreme flexions and twistings of the extremities and the affected muscles are the seat of acute pain. In appearance, it seems closely akin to hysteria, and Dr. Hammond thinks that many cases of tetany have been mistaken for hysteria or genuine tetanus. The treatment is limited to the administration of the bromides in large doses, and they seem to be the only remedy. Its prompt effect, as well as the unhappy effects of strychnine or other agents likely to produce increased flow of blood to spinal cord, seem to point to the pathology of the disease as essentially a congestion of the spinal cord. To this is added a chapter on Thomsen's Disease, and another on Miryachit and kindred affections. This last chapter discusses the nervous disease which manifests itself in the uncontrollable imitation by the sufferer of any act or sound made in his presence, and the queer expression of this malady has given rise to much discussion.

The many readers and students of this standard work find this last edition amended and corrected by additions to the rest of the book in keeping with the best knowledge of the period, and embodying much of the original work of the author.

Outlines of the Pathology and Treatment of Syphilis and Allied Venereal Diseases. By Herman Von Zeissl, M.D. Revised by Maximilian Von Zeissl, M.D. Translated by H. Raphael, M.D. D. Appleton & Co., New York.

The reputation of Von Zeissl as a venerialist will commend this book to our readers, as his position among authors on the class of diseases known as venereal has justly been placed among the foremost of these writers. Moreover, he has been known as an author of very positive opinions in regard to the nature and treatment of these frequent and troublesome maladies, and the authority of his utterances has been the more respected because of his unusually large experience.

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Of gonorrhœa, or venereal catarrh, Von Zeissl says that it is not possessed of any special microbe to which may be referred its infecting power, nor does the presence of a purulent discharge alone account for the peculiar features of the disease, for, say the authors, they have seen numerous instances in which men, who were troubled only with the "prodromal stage of the disease, i. e., the prickling sensation at the meatus urinarius, where not a trace of pus could be found in the urethral discharge, infected their wives and mistresses." But they claim that the morbific potency of a gonorrhœal infection resides "in a specific catalytic power of the secretion, i. e., in a contagium which adheres to the epithelial as well as to the pus cells, and which we are not able to isolate any more than any other kind of contagium." They set aside the gonococcus of Neisser, with the declaration that it has not been satisfactorily demonstrated. So that, after discarding the theory of the genetic factor being a microbe or due to the presence of pus in the infecting secretion, the authors fill up the want by substituting for either or both of these "a specific catalytic power of the secretion." Von Zeissl does not give any commendation to the practice of abortive treatment, having no faith in its efficacy, and being distrustful of its safety.

Local treatment by means of injection is preferred to internal medication, but the claim is made that if rest and a strict dietetic regimen is observed, a gonorrhœa will get well any way in four or six weeks. There is a practical method all through the measures set out for treatment of this disease which will find ready assent, we believe, among the readers of the work.

Although the chancroidal poison is set aside as specific, it is not put in the same class of contagious poisons as the chancral. Protection of the sore from interference with the healing process and cleanliness of the diseased portion is advised in place of cauterants and the like medications.

Following this, in natural order, comes the consideration of syphilis and its lesions, which occupies more than half of the book. Here again Von Zeissl declares his disbelief in the claimed discovery of a micro-organism which will stand for the specific poison of the disease. The treatment is at first expectant and local, and if, after a reasonable period, the local manifestations do not disappear, or if there should be symptoms which have not disappeared at the end of

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eight weeks, preparations of iodine should be given and another period of observation occupying eight weeks be covered, when, if these late manifestations have not gone, then "the treatment with mercury may be resorted to without any fear concerning the future course of the disease." The treatment by inunction baths, etc., are all discussed, and the exposition of the matter is full and complete. The work in the book is that of the elder Von Zeissl, reproduced and annotated by his son, and the translation by Dr. Raphael is a most excellent one. The opportunities for a study of the venereal diseases which the authors of this work had, were so unusual that these matured opinions are worthy of the more devoted attention.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON GÆNERAL'S OFFICE, U. S. ARMY. Vol. VII. Insignarès. Leghorn. Washington, D. C.

"This volume," says Dr. Billings, the able compiler of the catalogue, "includes 14,688 autho-titles, from 5,987 volumes and 12,372 pamphlets. It also includes 6,731 subject-titles from books and pamphlets, and 34,903 titles of articles from periodicals." This will give some idea of the vastness of the work which Dr. Billings and his coadjutors are accomplishing. The subject of "Intestines" occupies 60 pages in the volume and "Jaw" 40 pages. "Knee and Knee-Joint" together occupies 38 pages, and "Labor" 150 pages. The references include all that is necessary for an easy search for authorities, and are more complete than such a work has ever been before. To this volume is also added an "Alphabetical List of Abbreviations of Titles of Medical Periodicals Employed in the Index-Catalogue, with Explanations."

THE SOUTH-WESTERN MEDICAL GAZETTE.

We are pleased to welcome to our table the first two numbers of this journal. It is neatly gotten up in double-column, is printed on nice paper, in clean type and is easy to read. It is full of good and interesting matter, and we like it, and bespeak for it marked and rapid success. Edited by M. E. Coomes, A.M., M.D., and J. B. Marvin, B.S., M.D. The publishers are The Bradley & Gilbert Company, Louisville, Ky., and the subscription price is $1.00 a year.

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CORRESPONDENCE.

Messrs. Editors North Carolina Medical Journal:

GENTLEMEN :—The following subjects will be submitted to the State Medical Society for discussion at the Charlotte meeting :

1. The Rational Treatment of Ileo-Colitis of Early Childhood.

2. Our Autumnal Fever : Its Nature and Treatment.

3. Are the Dangers of High Temperature in Acute Diseases Overestimated ?

The discussion of one or more of these subjects will depend upon the length of time allowed by the Society for debate.

Yours truly,

W. P. BEALL, Leader of Debate.

Messrs. Editors North Carolina Medical Journal:

In my article on the "Hæmostatic Properties of Ambrosia Artimisiafolia," read before the North Carolina Medical Society, at the Durham meeting, I stated that I was satisfied that the remedy would prove valuable in the treatment of hæmorrhagic malarial fever. I had no opportunity of testing this until last fall. On the 23d of October I was called to see Mrs. J——, a slightly made, light complected, married woman, aged about 30. Had been having intermittent fever during the latter part of the summer. Found her with high fever, temperature 105°, and very much excited, having just passed from her bladder a chamber-pot nearly half full of what appeared to be pure blood. I at once made a strong infusion of ragweed and gave her a teaspoonful every half hour ; gave also the following : Sulp. quininæ grs. 24 ; calomel grs. vi. ; ext. hyoscyami grs. iij. ; make 3 powders. S. One every 6 hours. At my evening visit found her quiet, clear of fever, and on making water it was clear and of a light color. I called again very early the next morning. She had passed quite a quantity of bloody urine and had fever following a chill. I again gave the ragweed and put her on the following : Chloride soda ʒj. ; make 12 powders. S. One every

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2 hours in water. She had no more chills and no more bloody urine. She stated to me that she had once before been treated by Dr. Porter, of Rocky Point, for hæmorrhagic malarial fever.

I would ask members of the profession who have opportunity of treating this disease, to try this remedy, and report results. I have a small quantity, which I would gladly divide with any one who would try it. Very truly, etc.,

THOS. HILL, Goldsboro, N. C.

[If Dr. Hill continues his experiments in the treatment of malarial hæmaturia with the ragweed, and wishes his reports to bear close and favorable scrutiny, they must be extended over a series of cases. These reports should show that the ragweed has been accorded, and justly held, the chief place in the remedies given for the cure of this disease, and has a proven power over those agents now accepted as valuable by physicians whose experience has been large, but who are anxiously seeking for a more certain source of control in this much dreaded malady. We shall be glad to have a report of these cases if the doctor should continue his studies in this direction.—EDS.]

A CASE OF PROTRACTED AND DIFFICULT FIRST STAGE OF LABOR.

Messrs. Editors North Carolina Medical Journal:

On the 26th day of January, about midday, I was called to see Mrs. N., whom the messenger said was in labor. On my arrival the patient, who had given birth to her first child two years previously, expressed her belief that she was in labor, and gave me the following history: About a week prior to this date, while she was walking across the yard, she slipped and fell, which gave her a severe shock. She experienced considerable pain at this time in the lower abdominal region, but lay down and the pain soon subsided. On Saturday night, the 22d January, the pains returned, and as her term of pregnancy had about expired, and believing she was in labor, she sent for the neighborhood midwife early Sunday morning. The midwife came and pronounced her in labor. She suffered severe and almost continued pains up to the time I was called, which was four days subsequent to the beginning of her labor. On Tuesday morning, the 25th ult., the midwife abandoned her, saying: "The child is nearly into the world."

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On placing one hand on the abdomen, and introducing a finger of the other into the vagina, I discovered there were distinct contractions of the uterus at regular intervals. The head was presenting. The os was dilated about the size of quarter of a dollar, and was very hot, thin and unyielding. There was a narrow band around the os as hard as cartilage, and, when a pain came on, the circular fibers contracted furiously, so to speak, but this gristle-like band, which became more dense and unyielding, could be distinctly felt while the womb was contracting. I remained several hours, and, as the dilatation did not progress, I gave the woman 20 grains chloral, hoping it would relieve the spasm of the circular fibers, and left to make another visit in the vicinity. I returned at 10 o'clock at night, and found the womb quiescent, the woman expressing herself as feeling comfortable, having suffered very little pain since my departure. I now gave her an opiate, thinking it would quiet the nervous system and insure some rest, for she was becoming nervous and prostrated from protracted suffering, and hoping the womb, with a few hours' rest, would be better able to relieve itself of its burden, returned home with instructions to call me when the womb resumed action.

On the evening of the 27th I was recalled, and found the womb had recommenced its work, but the os was scarcely any more dilated than at my first visit. I prescribed a warm douche to the cervix, and then anointed it with a 5 per cent. ointment of cocaine, but this did not seem to modify the os or assuage the pain. I now administered chloroform, and the mouth began to dilate almost immediately thereafter, which went on rapidly to completion. The second stage was short, and the child, which was well developed, was quickly delivered, and I think the woman had about completed her full term. After the delivery of the placenta, examination showed the os in about the usual condition after labor. Whether the oblique and longitudinal muscular fibers did not act in concert, and therefore could not overcome the circular fibers, or whether the abnormal hardness and spasm of the circular fibers were too great for the combined powers of the expulsive muscles to overcome, is hard to determine. It is obvious the chloroform had the desired effect.

I do not submit this with any claim of skillful treatment, but in view of its clinical interest.

G. A. Ramsaur, M.D., China Grove, N. C.

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CURRENT LITERATURE.

RATS AS AN AGENT IN THE INTRODUCTION OF TRICHINA INTO SWINE.

To rats belong the credit of introducing trichina first into swine, and then, through the fresh pork and bacon, into human bodies.

In the year 1857 I shot a female rat that came out of my father's corn-crib. The ball passed through the lungs, tearing her body wide open; and, on an examination of the lungs, scarcely a sound spot could be found that was not filled with tubercles, and these with trichniæ in all stages of growth, from inception to maturity. In fact, the entire body, especially the muscles, was a living storehouse of the offensive creatures. Imagine the effect of this in the flesh of a hog that might have eaten it if left above ground. In 1865, on account of some grain-cribs near my dwelling, the house became infested with rats. Seven of these were shot one evening, and incautiously thrown into my hog-pen. A brood-sow ate them all. She was fat when she ate them: in six weeks she was so poor that her bones could well-nigh have been counted through the skin. Of course she died; but her carcass, after its examination, was carefully buried. All parts of the body, especially the intestines, muscles and lungs, were literally filled with trichinæ. Three cats in succession also succumbed to trichinosis after eating freely of the rats caught under and about the house. The examination of one of these also revealed their presence in the cats' lungs and bodies as the cause of their fatal disorder. A neighbor who killed a hog he could not fatten, brought over a speckled piece of lung and some of the flesh from near the back-bone, as well as a piece of the ham. All were found to be alive with millions of trichinæ; they were literally innumerable. In addition to this, the lungs were full of the *Filaria bronchialis* which also infests the human body. From these facts we derive the conclusion that rats and cats should be kept away from hogs intended for pork. It is certainly criminal, in the light and intelligence of this day, to kill rats and mice, and leave their bodies above ground unburned or unburied.

In 1856 I was eating at a farmer's table. He and his wife had

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each taken a piece of pork from the plate; in cutting through it, I heard a grating of the knife, as if cutting through a raw turnip. This to me was the sign of measly pork. Knowing that the year before he had burned sixty so-called cholera hogs on his farm, I declined to eat any of the pork. I expressed my fears to him and his wife. They laughed at my foolish caution, as they then thought it to be; but they were almost immediately after taken sick, and for years thereafter were doctoring their livers. His hogs had been given free range to an old straw-pile of half-rotted straw—a regular rat-burrow. I told him, after burning the sixty hogs that died of cholera (!), to shut up his fence, and burn his straw, which, of course, stopped the disease. The hog he had killed was one that had recovered from cholera, as he supposed, but which I knew had *Trichina spiralis* in the flesh. When the straw was dry the germs were easily conveyed by the nose to the lungs, or more probably to the stomach.—*Popular Science News.*

PRECAUTIONS RENDERING THE OPENING OF THE ABDOMEN SAFE.

Dr. R. S. Sutton (*Jour. Amer. Med. Asso.*, Jan. 8, 1887) thinks that the abdomen may be safely opened if the following precautions be observed:

1. Have the patient clean from head to foot, and the surface of the abdomen especially clean, made so by soap and water and a brush. Surround the parts with clean towels fresh from the hot iron.

2. Have your hands and forearms scrupulously cleansed with soap and water and turpentine.

3. Have your instruments clean and immersed in hot water.

4. Thoroughly etherize your patient.

5. Make an incision two inches long; before opening the peritoneum secure every bleeding vessel. Pass in two fingers and make search.

6. If you have failed to gain the desired information withdraw your fingers, pass in a sponge, locate it directly under, below and above the wound, and enlarge the latter with a clean cut over the sponge, to a length sufficient to let in your hand. Secure all bleeding vessels,

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withdraw the sponge, and pass in the hand and complete the search. Through such a wound much may also be seen. *Never make a longer cut than is necessary, and make a clean cut.*

7. Before closing the abdomen cleanse the cavity thoroughly, but be gentle in your use of the sponge; if you deem it necessary, pour in a pitcher of clean warm water and wash the cavity out. Gently sponge it dry. In closing the wound pass the sutures over a flat sponge laid beneath the wound.

8. Reject the use of carbolic acid or bichloride of mercury in your operations; they are useless *and a source of danger.* They may be useful in cleansing your hands prior to operating, *but they are to be kept out of the peritoneal sac.* Keith, Tait, Bantock, and others abroad have proved the worthlessness of carbolic acid, and I have for sometime been satisfied from experience that they are right.

9. Never permit any one but the operator to pass a hand into the cavity, unless his hand has been prepared by a careful cleansing with soap and water and brush, and with turpentine or a 1 to 2000 solution of bichloride of mercury. Even a 5 per cent. solution of carbolic acid is not reliable for this purpose.

10. In tying the sutures, dry the lips of the wound as you go along with a bit of iodoform gauze.

With the above precautions I have opened the abdomen many times, and I have yet to see a single wound so treated fail to unite by first intention.—*American Lancet.*

SEVERED DIGITS.

During the last few months the *Journal* has contained several communications in regard to the reunion of portions of fingers to the stump from which they had been completely severed. Five different physicians have recorded ten cases which have fallen under their own observation; eight in the reporter's practice and two in the practice of the reporter's father. Of these ten cases four are reported as perfect; three cases were successful, but there was more or less impairment of sensation; one lost half the last phalanx by sloughing; two only can be considered as failures, both of them united, but one afterwards

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separated, the other shrivelled and was practically worthless. We have also quoted during the same time a case from a Russian surgeon in which a portion of a thumb became reunited with perfect sensation, but limited mobility, and this week's *Journal* contains another equally well-authenticated case occurring in domestic practice.

That as large a number of cases should be reported in so short a time is quite surprising. It establishes, however, the fact that reunion is possible: a fact in opposition to the former belief of the majority of the profession. The cases reported are, with two exceptions, all successful; how great a proportion they would bear to the utter failures it is impossible to guess, but twelve cases in which some sort of adhesion has taken place, are enough to warrant much more careful attempts to restore small portions of the body which have been accidentally amputated.

The fingers most suitable for preservation, or those most likely to reward the attempt, would seem to be those which have been removed by a clean cut, so that suppuration between the two portions may be avoided. The time which may elapse between the accident and the successful replacement of the separated portion would seem to be very long. In Dr. Nivison's case three or four hours had elapsed during a portion of which time the fingers had been covered by snow. In these successful cases great care was evidently taken to secure perfect cleanliness of the cut and careful apposition of the fragments, together with such other care as seemed likely in the eyes of the surgeon to secure union without suppuration.

The literature of the subject is evidently not very large; still a very considerable number of reported cases are accessible, of fingers and other portions of the body, which have reunited after separation. An interesting case, for the fulness of detail with which it is reported, is that of Dr. Goschler, in the *Wiener Medizinisch Wochenschrift* for 1868. A man of sixty chopped off nearly the whole of the last phalanx of the ring finger, preserved the fragment for three-quarters of an hour in water at a temperature of 11° Rèaumur. In thirty-six hours there was evidently agglutination, during the third, fourth and fifth days the extremity was cold, but adherent and evidently sensitive. On the ninth day the reunion of the soft parts was assured, but there was no union of the bony fragments. At the end of a month recovery was complete.—*Boston Medical and Surgical Journal.*

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EXTIRPATION OF RECTUM WITHOUT DESTROYING THE SPHINCTER ANI MUSCLE.

The operation of extirpation of the rectum, or a portion thereof, for carcinomatous disease, or for stricture from other growths, has been given an impetus by the work and writings of Volkmann, in Germany, who has been followed by Drs. H. O. Walker, A. Vander Veer, Wm. H. Van Buren, and others, in this country, and chiefly by Mr. Harrison Cripps, in England. The operation, as generally performed, includes the extirpation of the sphincter, and to that extent causes great inconvenience to the patient.

The first thing to be done is to thoroughly dilate the rectum—dilate until the sphincter's muscular fibres give way and part like the fibres of a green stick when fractured. When this is properly done, the bowel can be turned down, like rolling back the cuff of a coat sleeve, and a goodly part of the mass brought external to the body, permitting easy manipulation. To any one who has not tried dilation to that extent, the operation may look dangerous and liable to cause lasting paralysis of the muscles; but I will state that for twelve years I have been practicing it in all cases of hemorrhoids, fissure of anus, and fistula, and find that the paralysis only lasts for a few days, just about long enough to permit free drainage and the passage of fæces without pain or irritation. After the dilation the rectum is to be held open by assistants with stout wire loops bent into the shape of Sims' specula.

After the operation, it is well to evenly pack the wounded surface with something that will prevent hemorrhage by giving even, steady support. Use the folds of a roller bandage made of cheese-cloth and thoroughly soaked in glycerine; this should be packed, as it is unrolled, around a rubber catheter passed well up the bowel; the end hanging out at the anus permits its ready removal. The catheter should not be omitted, as it permits the free passage of gases as they are generated.

May 24th, I was called by Dr. A. L. Fox-Rooney to see Mrs. T. P., a lady of fine physique, aged forty-three, who had been suffering from what she supposed to be hemorrhoids for over a year. Upon examination a nodulated, warty-like mass was found, one inch from the anus, occupying about three-fourths of the calibre of the rectum, posteriorly and laterally. This had been diagnosed by the

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doctor to be epithelioma, in which I agreed with him, and advised extirpation. The next day the operation was performed, with the assistance of Drs. A. L. Fox-Rooney and Michael Rooney. The sphincters were first fully dilated and the mass removed as described above, with the galvano-cautery. There was considerable hæmorrhage, which was stopped with the cautery and a tampon applied. After the tampon was removed antiseptic injections were used of a warm saturated solution of chlorate of potassa, an agent I consider far superior to carbolic acid in operations upon the lower bowels, on account of its freedom from danger through absorption.

The microscope revealed the fact that the growth was epithelioma.

Under the careful and judicious treatment of Dr. Fox-Rooney the lady made a rapid recovery, and has had no indications of a return of the disease up to the present time, and I believe I may truly say that she is cured.— *Wm. A. Byrd, M.D., Pacific Record of Medicine and Pharmacy, San Francisco, January*, 1887.

OIL OF TURPENTINE IN CHRONIC CATARRHAL AFFECTIONS.

The attention of the profession is again called to the great remedial value of oil of turpentine in chronic affections of the lungs and bowels, this time by Dr. James B. Walker. Turpentine taken internally, he thinks, is capable of impressing almost the entire mucous surface of the body; the exceptions are the uterus and vagina. Its first effects are upon the gastro-intestinal tracts before the absorption; and being eliminated by the kidneys and lungs, it physiologically stimulates, and in pathological states, it may favorably modify these emunctories.

Limiting his observations to chronic catarrhal affections of the alimentary and pulmonary tracts, Dr. Walker finds that in hæmorrhages from these surfaces it possesses peculiar powers. This is especially true of the stomach, in ulcers of whose mucous coat it stands preëminent. In hæmorrhage of the intestines it is only a less valuable, and even here it ranks with any other styptic, and

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out-ranks most of them. It is applicable to hæmorrhages of the earlier, as well as the latter, stages of typhoid fever.

In sub-acute and chronic diarrhœas, this remedy, Dr. Walker says, is used to a much less extent than its efficacy deserves. He has seen diarrhœas checked by it, which had for months resisted bismuth, opium, nitrate of silver, sulphate of copper, the mineral acids and other astringents. In chronic diarrhœas he does not regard bismuth as so serviceable as in acute disease, its value, in fact, being in inverse proportion to the chronicity. Opium, in these cases, by lessening peristalsis, will arrest the diarrhœa, only to be followed, on its cessation, with an aggravation of the trouble. Lead and silver salts serve to arrest the catarrhal conditions and favor repair, but their influence must be slight in the small quantities which can be safely administered, and in view of the extensive surface upon which they must be distributed to be of any avail. Besides, in most of these cases, the diseased areas are more or less protected by a tenacious environment of mucus. Turpentine may be given in considerable quantities without fear of irritation, and its volatile nature enables it to diffuse itself throughout the bowel, into all the intestines thereof, and to permeate even the mucous environment of the diseased glands, and directly impress these structures.

The best time for giving turpentine is between meals, and at bedtime. If, however, when taken on an empty stomach, there is much regurgitation, it should be administered about an hour after a meal. The oil may be given in gelatine capsule, each capsule inclosing from five to ten drops. In this form the drug is not tasted unless regurgitated; and if taken an hour after meals, will be so quickly passed into the intestines as to interfere little, if it all, with gastric digestion. Where the patient cannot swallow the capsules, the turpentine may be given in some sweetened emulsion, well flavored with anise or wintergreen.

In chronic bronchial affections, oil of turpentine has been found equally serviceable, and Dr. Walker states the proposition that in proportion to the chronicity of the bronchial catarrh, ammonia becomes of *less*, and turpentine of *more*, value. He has used the turpentine with signal success, not only in catarrhal conditions secondary to acute disease, but in primary catarrhal diseases which linger and threaten to involve the alveoli, or have already involved

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the alveoli, and become entitled to classification as incipient phthisis. In the dry forms the drug has not seemed desirable, but in the form characterized by decided or abundant expectoration its best effects are obtained.

The method of administration may be varied. Terebene is an exceedingly good preparation, which may be less offensive to some patients than the crude oil. Dose, five to ten drops, on sugar, in emulsion, or in capsules. Or the oil of turpentine may be given in the same way. In bronchial catarrh turpentine is sometimes given in the form of tar (by inhalations or by mouth), and the following is a favorite formula of Dr. Walker:

℞.—Ammon. chlorid..... ʒ iss.
Vin. picis liquid..... ℥ ss.
Syr. tolu..... f ʒ i.
Aquæ..... f ʒ iiss.
M. Sig. A desert spoonful every four hours.

Bedford Brown, in the *Journal of the American Medical Association* (September 25th, 1886), advocates the use of turpentine in the management of the more painful affections of the alimentary canal in infants and young children. According to his experience, the oil of turpentine fills a place which no other remedies can fill. He believes the therapeutic effect of turpentine to be of multiform character. "It is eminently soothing to the irritated and inflamed mucous membrane, and seems to promptly arrest the rapid exfoliation of epithelium. It is antifermentative, deodorant and antiseptic." He lauds the beneficial action of turpentine in gastralgia, intestinal catarrh, enteritis and a number of unclassified painful affections of a functional kind. He prescribes turpentine according to the following formula:

℞.—Mucilag. acaciæ..... f ʒ iss.
Sodæ bicarb..... gr. x.
Chloroform..... gtt. x.
Ol. terebinth..... ʒ ss.
M. Sig. A teaspoonful every two or three hours to an infant of six months.

—*Boston Medical and Surgical Journal.*

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TESTING FLUID EXTRACT OF ACONITE.—(Root.)

One-fifteenth of a minim of a well-made fluid ext. of Aconite Root, made from good root, and representing the root in the proportion of minim for grain, in a fluidrachm of water, will give a very faint, but still distinct aconite impression if held in the mouth for one minute. One-tenth of a minim in a fluidrachm of water gives a very distinct and much stronger impression, lasting generally for an hour or two. A good way of applying the test is to add 10 minims or 616 c. c. of the fluid extract to 12.5 fluidounces or 100 fluidrachms, or 369 c. c. of water, and agitate them well together. Each fluidrachm of this solution represents one-tenth of a minim. If the mouth be well rinsed out with water, and this quantity be held in the anterior part, around the end of the tongue, for one minute by the watch, and be then discharged, a distinct, definite and characteristic aconite impression is easily perceived. From one-tenth of a minim the impression is so strong at the end of ten or fifteen minutes that it is not easily missed.

If the solution be made one-half weaker, that is, ten minims in eighteen and three-quarter fluidounces, or 150 fluidrachms, so that each fluidrachm represents one-fifteenth of a minim of the fluid extract, then the impression from a fluidrachm of this is so faint that unless it be watched for, it is not always noticed. But if watched for, it is generally perceptible in fifteen or twenty minutes, and is stronger or weaker at intervals for half an hour, and then disappears.

This is about the limit of the test for a good fluid extract of full officinal strength, and no fluid extract should be accepted which does not give a distinct impression from one-tenth of a minim.

The Fluid Extracts of Aconite of three of the most prominent and largest makers for this market were carefully submitted to this test, with the following results:

The first is made with alcohol, and the label states that each minim represents ninety-five hundredths of a grain of Aconite Root. But on application of the above test no aconite impression was obtained. A stronger solution was then made, one-seventh of a minim in the f 3 of water, but still no distinct impression was obtained. Then a solution of one-fifth of a minim to the f 3 was tried, and gave a faint, but distinct, impression to two out of three persons who tried it. This preparation was therefore not more than

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half the standard strength, and therefore, if used in the standard dose of one to two minims, as given on the label, it could not yield the standard results.

The second bottle was also made with alcohol as a menstruum, and was described on the label as being of the standard strength of the U. S. Pharmacopœia of 1880, and the dose as being one minim or less to five minims. This preparation failed to give a distinct impression until the f 3 of water contained three-tenths of a minim, and it was, therefore, about one-third of the standard strength, and three to six minims would be the standard dose.

The third specimen was made with diluted alcohol as a menstruum, and was described on the label as of the strength of a minim for each grain of aconite root. This preparation responded fully to the standard of the test. The cost of these fluid extracts was, respectively, $0.96, $1.20 and $1.31 per pound in quarter pound bottles, with discounts off. The first two must have been either very carelessly made or made from root of an inferior quality.

Now, as 1-2000 grain of good aconitine gives an impression, which is approximately equal to that from one-tenth of a minim of good fluid extract of aconite root, it follows that this tenth of a minim should contain approximately 1-2000 of a grain of aconitine. Then a minim should contain 1-200 of a grain, and two minims should contain 1-100 of a grain, and this gives practically the equivalent doses of the alkaloid and fluid extract when both are of standard quality. From this equivalency it would seem that good aconite root contains 1-200 of its weight or .5 p. c. of aconitine, but this is some six or seven times as much as is given by the best authorities, and more than three times as much as the writer has obtained under very favorable conditions. This discrepancy is at present without rational explanation, since it appears improbable that two-thirds of the alkaloid, or more, should be destroyed in the process of extraction.

In this connection it seems worth while to attract especial attention again to the rapidity with which dilute solutions of the salts of the strongest aconitine become inert. It has repeatedly occurred to the writer to find dilute solutions of the acetate of aconitine become entirely inert by standing 48 hours in closed vessels, and yet give no signs of the growth of mycelium to the naked eye. The

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quantity of alkaloid is, however, so very minute that growths sufficient to destroy it would be microscopic.

This whole subject of aconite and aconitine is treated of at much greater length at page 123 et seq., of this series of pamphlets, but as it seems to have attracted much less attention than the importance of the subject deserves, it may not be amiss to have returned to it with the results of accumulated experience, particularly when it is remembered that preparations of aconite are among the most prominent and definite articles of the modern materia medica, and becoming more important every day.—*An Ephemeris of Materia Medica, etc.*

ARTERIAL LIGATION AS A PROPHYLACTIC MEASURE AFTER SUDDEN AND PERMANENT OCCLUSION OF THE CHIEF VEIN AT THE ROOT OF AN EXTREMITY.

Dr. L. S. Pilcher (*Annals of Surgery*) summarizes an able discussion of this subject thus :

1. Serious circulatory and native disturbances are to be apprehended : *a*, in the upper extremity, when, in addition to the occlusion of the main vein at its root, simultaneous occlusion of any considerable number of the lesser and collateral branches has also taken place ; *b*, in the lower extremity, when the occlusion of the main vein at its root is sudden and complete, and has not been preceded by any conditions which might have occasioned a previous dilatation of collateral channels or the development of new ones.

2. The accidents of excessive œdema and of gangrene, when they occur, are due to the intense and active congestion of the limb, through the arteries, with blood for which there is no adequate outlet.

3. The development of collateral paths is not by the breaking down of valve-barriers at the entrance of large collateral trunks, but by the dilatation of a multitude of minute branchlets. To affect this an increased arterial *vis a tergo* is not required. Any increase in the normal blood pressure is attended with danger of overwhelming and fatally choking up the somewhat slowly enlarging collateral radicales.

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4. The diminution of the amount of arterial blood which enters a limb whose chief venous outlets have become occluded down to an amount not greatly in excess of that which can readily find an outlet from it through paths still remaining, is the first great indication to be fulfilled in the treatment.

5. Whatever method is adopted to restrain the flooding of a limb with arterial blood, it must still permit the entrance of a supply sufficient for the nutrition of the limb. For this reason, in the lower limb, ligation of the common femoral is to be avoided, especially in the light of the disastrous results of such ligations already recorded.

6. Ligation of the axillary artery, in the upper extremity, and of the superficial femoral, in the lower, are safe expedients, and to be adopted as prophylactic measures, whenever occlusion of the venous outlets of a limb is so great as to hazard the integrity of the limb by reason of the circulatory stasis produced.—*American Lancet.*

A NEW TREATMENT OF GONORRHŒA.—Castallan, of St. Mandrier Hospital, starting with the view, now popularly entertained, that gonorrhœal urethritis is a parasitic disease, and being led by observation to believe that the microbe can only live in an acid medium; finding, moreover, that in this disease the discharge is, as a rule, acid, proposes to treat gonorrhœa in the acute stages by urethral injections of sodic bicarbonate; three or four injections being made daily of a one per cent. solution. For this treatment, which is but a logical inference from the premises, he claims remarkable success, although the cases on which it has been tried in St. Mandrier, as yet, number only a dozen. The injections of bicarbonate of soda are commenced as soon as the discharge appears, or the patient comes under observation; the urethral secretion is tested every day with litmus paper, and the injection is kept up till the discharge becomes alkaline or neutral. For internal treatment the patient is given flax-seed tea, with occasional doses of bromide, if there seems to be any indication for the sedative effects of this salt. His conclusions are as follows:

1. The urethral pus in the first stages of the disease is generally, if not invariably, acid; this acidity is quite pronounced.

2. The treatment by bicarbonate of soda rapidly lessens the discharge; it also rapidly diminishes or removes the pain in micturition.

3. In old urethritis, and in those which have been treated by the usual injections, it speedily brings about a cure.—*Boston Medical and Surgical Journal.*

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NOTES.

According to Dr. Robert McC. Lord (*Med. Journal*) when, in breech presentations, the head cannot be delivered soon enough to guard against asphyxia, air may be freely admitted to the child's mouth and nostrils, by gentle traction on the posterior vaginal wall with a Sims' speculum.—*Medical Age.*

Dr. Emil A. von Schweinitz, formerly Assistant Professor at Chapel Hill, has just finished an advanced course of study in Chemistry and Mineralogy, at the University of Gottengen, Germany, and is now a Doctor of Philosophy (Ph.D.) We are pleased to learn that he will be home soon in this place. We congratulate him upon his success.—*The People's Press, Salem, N. C.*

We are gratified to receive the *Ephemeris* again, after a discontinuance of twelve months—during the time Dr. Squibb was absent in Europe. This valuable journal will be issued as before, whenever the editors think sufficient valuable material has been collected to make up a number. The present issue contains an exhaustive notice of hydrochlorate of cocaine manufacture, in continuation of remarks upon the same subject in the number which completed Volume II. The review of the Pharmacopœia of 1880 is continued, and this number takes up Extract of Opium.

Quinine in 1694.—John Evelyn, in his "Diary," states that "on visiting the Marquis of Normandy, November 29th, 1694, he had much discourse with him concerning Charles II. being poisoned; also concerning the quinquina, which the physician would not give to the king at a time when, in a dangerous ague, it was the only thing that could cure him (out of envy because it had been brought into vogue by Mr. Tudor, an apothecary), till Dr. Short, to whom the king sent privately to know his opinion of it, he being reported a Papist (but who was in truth a very honest, good Christian), sent word to the king that it was the only thing which could save his life; and then his majesty enjoined his physicians to give it to him, which they did, and he recovered. Being asked by Lord Normandy why they would not prescribe it, Dr. Lower said it would spoil their practice, or some such expression, and at last confessed it was a remedy fit only for kings."—*American Druggist.*

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Dr. H. T. Bahnson, Salem, N. C., wants the "Transactions" for the 1st, 2d, 5th, 12th and 13th annual meetings of the North Carolina Medical Society. He will give $10 for the set of five, or $1 for any single one.

Dr. Metcalf on the Treatment of Sciatica.—Dr. Metcalf, of this city, writes to the *Boston Medical and Surgical Journal*, that no prescription for sciatica has ever equalled in efficacy the following: ℞. Tinct. aconit. rad., tinct. colchic. sem., tinct. belladonna, āā 3 j. M. Sig. Dose, six drops every six hours. He also uses triturate tablets, each containing three drops of the following: Tincture of aconite root, tincture of seeds of colchicum, tincture of belladonna, tincture of actea racemosa—equal parts by volume. Dose, one every four or eight hours.—*Med. Record.*

The Danger of being a Pioneer in Oöphorectomy.—Dr. Robert Batty, now the pride of Southern medicine, says, in describing the history of his first case: "While engaged in nursing assiduously, as I did my first patient, spending ten days at her bedside, without leaving the house for a moment, even for a change of linen—during this time of great suspense and anxiety, in the office of one of my brother practitioners, were held nightly meetings of the profession of the town, receiving reports on the condition of my patient, awaiting her demise with anxious longings in order to institute proceedings in our court and put me before the bar as a criminal."—*Med. Record.*

Mr. Frederick W. Lowndes, says the *Medical Record*, treats orchitis and epididymitis by painting the affected testicle with a solution of nitrate of silver, two drachms to the ounce, and enforcing strict rest in bed. The organ must be supported on a small pillow to prevent its hanging down. The result is prompt subsidence of pain and a return of the organ to its normal size in a few days. The result of this treatment is slower, but quite sure where the patient cannot be confined to bed; but the rest is quite an important item in the cure, as the remedy cannot act as efficiently when the organ is only supported by a suspensory bandage or handkerchief, as when absolute quiet is ensured by the recumbent posture in bed.

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THE mortality from labor in China is estimated to be 8 per cent., or about 400,000 deaths annually.—*Medical Record.*

HOW TO ABORT A FELON.—Dr. John T. Metcalf writes to the *Boston Medical and Surgical Journal:* "My father was a medical man, who graduated from the University of Pennsylvania in 1816 or 1817. In 1839 I learned from him that a felon could, if seen early enough, be made to abort by wrapping the finger-end with narrow strips of adhesive plaster. When pus has been formed, I learned twenty years ago, from a country doctor, that immediate relief and speedy cure would follow the gentle, slow separation of the nail from its envelope by means of a penknife blade, not too sharp, at the point nearest the seat of greatest pain. Very soon a drop of pus shows itself, and relief comes. I am aware that the plan described is known to many medical men. It was not known to me at the time referred to, when the country doctor showed me how to treat a paronychious patient, whose finger I was about to lay open by the 'free incision down to the bone, taught in the lessons of my great masters.'"—*Medical Record.*

VACCINATION AND THE ANTI-VACCINATORS.—The London Society for the Abolition of Compulsory Vaccination has adopted a resolution to the effect that, inasmuch as vaccination has been "the means of spreading dangerous and infectious diseases," and that this is no longer denied by the heads of the profession, it is the duty of medical men to petition Parliament for the repeal of the Vaccination Acts. It would be equally rational to expect the medical profession to take up an attitude of opposition to the wearing of clothes, because certain garments had been known to induce a skin eruption, or, as the medical officer of the Local Government Board lately argued, to protest against the use of bed-clothes because babies were occasionally smothered in bed. The childishness of the proposal carries with it its own condemnation. Medical men see, in the occasional very rare accidents attending vaccination, reasons for endeavoring to make the method of operation as perfect as possible, not for abolishing a means of protection, which annually saves countless persons from death by one of the most terrible disorders which has ever afflicted mankind. We do not, therefore, anticipate that the proposal will meet with a favorable response, nor do we suppose that such is expected.—*British Medical Journal.*

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THE *Boston Medical and Surgical Journal* says: "Through the admirable activity of Dr. H. I. Bowditch, the Boston Relief Committee have voted to appropriate $5,000 to the Medical School and the Roper Hospital of Charleston, S. C." This generous contribution from Massachusetts to South Carolina will be received with as much appreciation as its magnanimity deserves.—*Maryland Medical Journal.*

DANGEROUS LEMONADE.—A style of lemon-squeezer has been recently sold quite extensively which is made of galvanized iron, or iron covered with a coating of zinc. A word of caution should be given against the use of such articles, as the citric acid of the lemon will readily dissolve the zinc, forming unwholesome and poisonous salts. Lemon-squeezers should be made either of plain iron or wood, or, better, like some we have observed, where the surfaces brought into contact with the fruit are of glass or porcelain. Zinc is a metal which is readily attacked by the weakest acids, and no article of food or drink should ever be allowed to come in contact with it.—*American Druggist.*

THE *Western Druggist* says: "More patent medicines proportionately are sold in the United States than elsewhere. The great middle class buys most of them. The smaller country newspapers subsist largely upon advertisements of these 'remedies,' and at least $100,000,000 have been paid newspapers during the last two decades, while upwards of $5,000,000 have been expended in rock and fence advertisements. The field for new patent medicines is narrowed every day. Cathartic pills and sarsaparillas do not succeed readily, because so many well-established specimens occupy the field. Until the stamp tax was abolished patent medicines yielded the Government $1,800,000 annually. The census of 1880 shows that there were then 563 establishments in this line in the United States, employing 4,015 operatives; that the capital invested was $10,620,900, and that the value of the annual output was $14,682,000. New York stood first in the amount of capital invested ($3,512,430), and in annual output (nearly $4,500,000); Pennsylvania second in capital invested ($2,000,000), and third in annual output ($1,000,000); Missouri third in capital ($1,500,000), and fourth in annual output ($750,000); Ohio fourth in capital ($570,000), and fifth in annual output ($450,000); Massachusetts fifth in capital ($521,000), and second in annual output ($1,500,000)."—*Medical Record.*

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BOOKS AND PAMPHLETS RECEIVED.

Method in Medical Study. Charles H. May, M.D.

Transactions of the Medical Association of the State of Missouri, 1886.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland, 1886.

Suggestions as to Substitutes for the Tracheotomy Tube. By John H. Packard, M.D.

Is Electrolysis a Failure in the Treatment of Urethral Strictures? By Robert Newman, M.D.

A Case of Pregnancy Complicated with Uterine Fibroids and Measles. D. W. Cathell, M.D.

Further Consideration in Regard to Tracheotomy for Croup and Diphtheria. By John H. Packard, M.D.

Report on Rhinology. The Treatment of Nasal and Pharyngo Nasal Catarrh. J. Addison Stucky, M.D.

An Address before the Literary Societies of the University of North Carolina. By Hon. Augustus Van Wyck.

The Amblyopia of Squinting Eyes: Is it a Determining Cause, or a Consequence of the Squint? By Samuel Theobald, M.D.

The Exploration, Excavation and Illumination of the Interior of Bones in Any Part of the Body. Milton Josiah Roberts, M.D.

The Call to Work. A Baccalaureate Sermon to the Senior Class of the University of North Carolina. Rev. Charles H. Hall, D.D.

Report for the Year 1885–'86 Presented by the Board of Managers of the Observatory to the President and Fellows of Yale College.

Antisepsis in Ovariotomy and Battey's Operation. Seventy Consecutive Cases with Sixty eight Recoveries and Two Deaths. By Robert Battey.

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Miconeuropathia. By C. H. Hughes, M.D.

Naso-Pharyngeal Catarrh. By J. G. Carpenter, M.D.

Address on State Medicine. By John H. Rauch, M.D.

Annual Report of the Commissioner of Pensions, 1886.

Cases in Orthopædic Surgery. By Morgan Vance, M.D.

A Case of Reflex Otalgia. By S. Latimer Phillips, M.D.

Urethral Lithotomy in the Female. By J. G. Carpenter, M.D.

The Treatment of Uterine Flexions. Virgil O. Hardon, M.D.

Antisepsis in Ovariotomy and Battey's Operation. Robert Battey, M.D.

On Certain Mooted Points in Gynecology. By Thomas Addis Emmett, M.D.

Subcutaneous Division of Urethral Stricture. By Claudius H. Mastin, M.D., LL.D.

Certain Hereditary and Physical Phenomena in Inebriety. By T. D. Crothers, M.D.

A Case of Lithotomy with Artificial Opening for Drainage. By J. G. Carpenter, M.D.

Experience with Some of the Recent Suggestions in the Treatment of Eye Diseases.

The Relative Influence of Maternal and Wet-Nursing on Mother and Child. By Joseph Edeil Winters, M.D.

The Curvette as a Diagnostic and Therapeutic Agent in Gynecology and Obstetrics. B. Bernard Browne, M.D.

Grave Importance of an Early and Accurate Diagnosis when Eyesight is Failing. By Joseph A. White, A.M., M.D.

Two Papers. By W. H. Daly, M.D.—Laryngology and Its Branches in America. The Simplest and most Efficient Treatment of Diphtheria.

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OBITUARY.

Dr. Joseph Hollingsworth.

Died, on the 20th of January last, Dr. Joseph Hollingsworth, at his home, in Mt. Airy, Stokes county, N. C., in the sixty-seventh year of his age. He graduated at the Jefferson Medical College of Philadelphia, and has always been the trusted physician and friend of his section, enjoying the confidence of his people in every capacity in which his worth has been tested.

He served one term in the State Legislature, but not finding politics in accord with his tastes and habits, he declined a re-election.

He was a member of the North Carolina State Medical Society, having joined that body in ——.

We beg leave to offer our sympathy and condolence to his family and friends.

Dr. J. F. M. Geddings.

Dr. Geddings died in the city of Charleston, S. C., February 3d, 1887. He was a graduate of the Medical College of the State of South Carolina, about the year 1850. He was the eldest son of the late distinguished physician and surgeon, Dr. E. Geddings, and he attained an enviable position in the profession in his State and in this city.

Dr. Geddings spent two years in Paris and Germany, and after his return was for sometime one of the professors in the Medical College in Charleston. He was always a close student, devoted himself to the study of pathology, was very proficient in the use of the microscope, and as a practitioner held a very high rank. He was very often called in as a consultant by his medical brethren, and was at one time President of the State Medical Association.

His health had never been very good, as he suffered from valvular disease of the heart consequent upon repeated attacks of rheumatism. He was pursuing his professional duties within a few days of his death, which was caused immediately by an affection of the lungs.

His medical brethren gave evidence of their respect and esteem for him as a man and a physician by the unusually large gathering at his funeral.

We clip from an article in the *News and Courier* of February 4th the following:

"Dr. Geddings was regarded universally as a physician whose industry and technical education had won for him a first place in the profession. He was a scholar in medicine in every sense of the word. His practice was consequently very large, and he was especially popular as a 'family physician.' Apart, however, from the finished education of Dr. Geddings as a physician, he was a man of varied literary attainments. Always a close student and observer of the progressive movements in his chosen calling, he found time, among his arduous labors, to keep pace with the general literature of the present time. He was, therefore, an accomplished scholar and a man of the most general information. In his private life Dr. Geddings was as

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exemplary as he was modest and unassuming, notwithstanding the easy pre-eminence which his natural talent and singular gift in diagnosis, together with his education and attainments gave him. In him the medical fraternity of the State has lost a most distinguished associate, and Charleston one of its most worthy and representative citizens."

During the civil war Dr. Geddings was appointed to the charge of the Academy Hospital in Augusta, Ga., with the rank of surgeon, and just before the close of the war served as surgeon on the coast.

READING NOTICES.

FREDERICK STARRS & Co., of D troit, have sent in samples of their medicines, which consist of the active principles of drugs, in powder and granules for internal use, and pellets for hypodermatic use and fluid extracts, in which the active principle has been assayed and the fluid brought to a standard strength.

MALTINE AS A FOOD-SOLVENT.—Referring to the use of MALTINE in his treatment of indigestion, Dr. Fothergill says: "Then, again, in order to aid the defective action upon starch by the natural diastase being deficient in quantity or impaired in power, we add the artificial diastase, MALTINE. But, as Dr. Rober s points out, in order to make this ferment operative, it must not be taken after a meal is over. Rather it should be added to the various forms of milk porridge or puddings before they are taken into the mouth. About this there exists no difficulty. MALTINE is a molasses-like matter, and mixes readily with the milk, gruel, etc., without interfering either with its attractiveness of appearance or its toothsomeness; indeed, its sweet taste renders the gruel, etc., more palatable. A minute or two before the milky mess is placed before the child or invalid, the MALTINE should be added. If a certain portion of baked flour, no matter in what concrete form, were added to plain milk, and some MALTINE mixed with it before it is placed on the nursery table, we should hear much less of infantile indigestion and malnutrition." Again, the same eminent authority, in Fothergill & Wood's "Food for the Invalid," says: "The action of the saliva upon starch is to quickly convert it into sugar. Consequently, as sugar is soluble, this leaves the nitrogenized portion of the flour to be readily acted upon in the stomach. When the saliva is defective in an infant, or at least insufficient to produce the conversion of starch into sugar, it is now customary to give the infant MALTINE. MALTINE is a sweet, molasses-like sort of thing, which can be added to baby's food a brief period before it has to be taken, for the conversion is quick. The starch being thus largely converted into sugar, the digestive act in the stomach goes on without painful effort. The treatment of dyspepsia in adults is carried out on precisely the same principle, and baby's food and MALTINE are equally good for them."

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NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

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ORIGINAL COMMUNICATIONS.

REPORT OF A CASE OF EXTERNAL ŒSOPHAGOTOMY.

By E. Burke Haywood, M.D., Raleigh, N. C.

B. J. P. Pool, male, aged 24, farmer, has worked hard and been much exposed to bad weather; was not successful in making good crops, became despondent and health failed; had an attack of remittent fever in the spring of 1884, and a relapse in the following July; never regained his health; showed symptoms of insanity in December, 1884, which rapidly developed into mania; was admitted into the North Carolina Insane Asylum May 31, 1885. At that time he was pale, emaciated and debilitated; he had a sunken chest and stooping gait. He was in the habit of chewing and swallowing sticks, rags or anything of that kind he could get hold of. He on one occasion attempted to kill himself by sticking a fork into his throat, and his voice in consequence was rendered shrill and sharp. July 26th, 1886, he swallowed a hard substance which lodged in the œsophagus, just below the cricoid cartilage, and so occluded that tube that it was impossible for any fluid to pass beyond it. Repeated efforts were made during

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four days by the medical officers of the Asylum to catch it with an œsophageal forceps or to dislodge it by a sponge-headed probang. Failing in these attempts, and fearing that ulceration and perforation might ensue if it remained any longer impacted in the œsophagus, a consultation was requested by Dr. Grissom, the Superintendent of the Asylum. Dr. E. Burke Haywood, the consulting surgeon to the Asylum, was sent for by Dr. Grissom, who was confined to his room by sickness. The consultation was held with Drs. Fuller and Rogers, assistant physicians to the Asylum, and Dr. Hubert Haywood, of Raleigh. The unanimous decision of the consultation was that external œsophagotomy ought to be performed.

July 30.—The patient was etherized and placed in a supine position, with the head and shoulders a little raised. The left side of the neck was chosen for the operation because the œsophagus naturally inclines somewhat in that direction. The face was averted to the right side. Beginning on a level with the top of the thyroid cartilage, an incision was made along the anterior border of the sterno mastoid muscle about five or six inches long. This incision was cautiously deepened and the soft parts carefully dissected until the omo-hyoid muscle was reached; underneath this the carotoid sheath, with its vessels and nerves, was found; this was carefully drawn outwards and held with a blunt retractor. The dissection was continued; the larynx, trachea and œsophagus having been reached, a careful search was made for the foreign body, external pressure being made with the fingers on the right side of the larynx, trachea and œsophagus, but it could not be felt. Bond's curved œsophageal forceps was then introduced through the mouth into the œsophagus and made to project the wall of the œsophagus into the wound. An incision was then made through it over the space between the bevelled edges of the blades of the forceps. A sponge-headed probang, well oiled, was passed through the incision in the œsophagus, carried downwards and the obstruction found opposite the third costal cartilage. Repeated efforts were made to grasp it with the œsophageal forceps or to dislodge it with the sponge-headed probang, but without success. After thoroughly saturating a sponge-headed probang with glycerine and applying it to the obstruction, the patient was left in charge of the medical officers of the Asylum.

During this operation there was no blood-vessel of any size cut or any important nerve wounded.

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On the morning of the 31st of July the obstruction was found to have passed into the stomach, and the patient could swallow liquids without their passing through the wound. He was fed by means of a stomach-tube with milk or liquid beef peptonoids.

August 4.—The obstructing substance passed through his bowels. It was found to consist of two suspender buckles, two suspender straps, attached to metal rings, and a small piece of ribbon, wrapped into a disk by means of a shoe-string. It measured 1½ inches long, 1 inch broad and ½ inch thick.

He did pretty well until August 28th, when he had a chill followed by fever, profuse perspiration and other symptoms of septic infection. He continued to grow worse, and died September 17th, having lived one month and eight days after the operation. The external wound in the neck was united with the exception of three-fourths of an inch at its lower extremity.

Insane persons make bad surgical patients. They will not aid you in their examination, and will mislead or deceive you in answering your questions and endeavor to disturb or take off the surgical dressings applied to their injuries. At an autopsy made of the patient, there was found in the upper lobe of the right lung a large abscess and several other small abscesses throughout its whole extent. The middle and lower lobes of this lung contained abscesses of a similar character.

I am indebted to Dr. Sion H. Rogers, Second Assistant Physician to the North Carolina Insane Asylum, for the use of his notes taken during the progress of this case, and also to Drs. Fuller, Hubert Haywood and Rogers for valuable assistance rendered during the operation.

Prof. Samuel D. Gross* writes: "I have never performed œsophagotomy, and such an operation will, I presume, rarely, if ever, be required, if proper direction be given to our attempts at extension. It is only when the *foreign body is immovably fixed* in its position that this question should be at all entertained.

PELLETIERINE has been found by Dr. Galezowski, of Paris, to be a remedy for paralysis of branches of the third and sixth cranial nerves; improvement or cure having followed, in several instances, after three to six doses.—*American Druggist.*

*Gross' System of Surgery, Fifth Edition, Vol. II., p. 566.

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CASES OF OVARIOTOMY.

By Cornelius Kollock, A.M., M.D., of Cheraw, S. C.

Case 1.—Mrs. M. M., aged 32, married 13 years; has six children, youngest 2 years of age; has always enjoyed good health. Soon after last accouchment a fullness, with some enlargement, was noticed in the left iliac region. The swelling increased rapidly throughout the abdominal cavity, but the general health was so good pregnancy was suspected, although menstruation had continued with the utmost regularity. There was no abatement of the growth till the date of my first examination of the case in December, 1884, when the tumor occupied the whole of the pelvic and abdominal cavities from the cul de sac of Douglas to the diaphragm. Fluctuation was distinct over the whole abdominal cavity. Dullness of percussion over the left ovary. The absence of depression at the umbilicus and bulging of the flanks when in a recumbent position, dismissed the idea of ascites.

On the 20th of February, 1885, the operation was performed, Drs. Prince, Miller, Wilson, Jones and Waddill assisting. Abdomen was opened four inches. Extensive and firm parietal adhesions were encountered. The cyst was also fastened to the omentum and bowels. So firm was the adhesion to the omentum, a section of it had to be removed, and it was necessary to excise a patch from the cyst wall and leave it on the bowel to avoid a laceration of the latter. Realizing at this stage of the operation the dimensions of the tumor, the incision, which now reached the symphysis pubis, was carried about two and a half inches higher, passing to the left of the umbilicus, in order to avoid the round ligament of the liver and its vessels which come in there from the right side. The tumor was of an irregular globular form, filling Douglas' cul de sac and the pelvic cavity below, and snugly pressing against the antero-posterior inclination of the diaphragm above. The tumor was composed of two large cysts, and to each were appended from eight to twelve smaller ones—the smaller varying in size from that of a medium size orange to that of a walnut—some were even smaller. Wells' trocar was then introduced and the cysts emptied and the tumor dislodged. As the cysts were emptied the increased action of the diaphragm in respiration was very perceptible. The fluid contained

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by the different cysts varied as much in appearance as did the cysts in size. While one was filled with a dark, grumous, greasy fluid, another contained a brownish-looking fluid, with white streaks running through it, thick and closely resembling pus, while a third was filled with a clear, limpid fluid, evidently pure serum. The cyst and contents weighed 28 pounds. The pedicle was long, thick and broad, and was secured by Peaslee's chain ligature, cut and dropped into the cavity. The toilet of the peritoneum was carefully made. Too much attention cannot well be bestowed on this vascular and sensitive tissue. We must think that much of the success in all abdominal operations, more especially in that of ovariotomy, is due to careful handling of the peritoneum. The cavity being thoroughly cleansed, was closed by nine deep and five superficial sutures, supported by adhesive strips. As there was much oozing from vessels ruptured in breaking up the adhesions, a drainage-tube was kept in for two days. The patient recovered without a bad symptom, and returned to her home in four weeks.

Eighteen months after the operation this patient gave birth to a fine healthy child.

Case 2.—Mrs. J. T. H., aged 46, the mother of 11 children, rather stout, weight 146, black hair and eyes and dark complexion. Her health was poor for several years and she suffered from dyspepsia and constipation. She was also troubled with persistent metrorrhagia, supposed to be owing to a degenerate state of the endometrium. Her condition was anything but promising. But the operation had already been delayed too long. At the time of the operation the patient was in rather better health than she had been for several years.

A multilocular cyst of the right ovary was diagnosticated.

Operation 12th December, 1885. Present, Drs. E. F. Ashe, E. Miller, D. B. Prince, J. Bennet, C. W. Kollock and W. Ingram. An incision of three and one-half inches below the umbilicus reached the peritoneum. Owing to the extent and firmness of the adhesions and the difficulty of manipulating the tumor, the incision was extended about two inches above the umbilicus. The cyst was adherent to the abdominal walls from the pelvic cavity to the diaphragm; was also fastened to the omentum and bowels. The adhesions to the bowels and omentum were easily broken, but were so firm on the walls of the abdomen that one or more patches from

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the cyst wall had to be excised to avoid injury to the peritoneum. The operation occupied more than an hour. There was very great oozing and a drainage-tube was put in. The patient was very much exhausted. Partial reaction took place in the course of a couple of hours, but there was so much nausea that no restoratives could be given by the mouth. Milk, brandy and quinine were administered often by enemata. The incision was closed by eight deep and five superficial sutures, supported by adhesive strips and elastic flannel bandage. The nausea continued for 24 hours, but the patient failed to rally after she was able to take nourishment. In more than thirty hours after the operation less than three ounces of urine were discharged. Death occurred on the third day, and evident symptoms of uræmic poison were present. If there is a renal trouble, there is very apt to be suppression of urine if ether is employed. Chloroform does not have this effect. The cyst weighed 18 pounds. The cyst walls were very tough, not torn at all by the volsellum and sac-lifter.

Case 3.—Mrs. R. D. P., aged 36, has six children, eldest 16, youngest 5 years; a widow four years; a bright blonde, with very light hair and blue eyes; very nervous and excitable; always enjoyed good health till she was thirty years of age, when she noticed a fullness in the left iliac region. Soon after this a small tumor was perceptible to the touch. Menstruation was regular and unaccompanied by pain. She continued to increase in size, and when I first saw her, a short time before the operation, the abdomen was very much distended—girth at the umbilicus measured forty-three inches. She was much reduced in strength and flesh, being 18 pounds lighter than in health. She was too feeble at that time to undergo an operation, and was put on a preparatory treatment. Iron, wine, a generous diet, with a daily bath, soon brought about a material change for the better in her condition.

Operation 21st of January, 1886. Assistants, Drs. David, Woods, Palmer and Smith. An incision of four inches below the umbilicus reached the peritoneum. Adhesions were not extensive or firm, were easily broken up, except at a single point on the left abdominal wall, the side to which the cyst most inclined, it being attached to the left ovary. At this point the adhesion was a little refractory; but finally yielded.

The operation occupied 38 minutes. The patient was greatly

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nauseated and very much exhausted, so much so as to excite alarm.

After a few hypodermic injections of brandy and enemas of brandy, milk and quinine, reaction came. The cavity was thoroughly cleansed and the incision closed by seven sutures, four deep and three superficial. The cyst weighed 26 pounds.

The wound healed readily by first intention, and the sutures were all removed in eight days after the operation. Although the patient seemed to be comfortable and apparently doing well, she regained her strength very slowly. It was four weeks before she was able to sit up more than a few minutes at a time, and six weeks before she could walk about her room. She finally made a good recovery, and wrote me six months after the operation that her health was better than it had been in five years.

Case 4.—Battey's operation. Miss E. H. P., aged 31. Menstruation commenced at 13 years of age; has always been accompanied by more or less pain; is generally confined to her bed the greater part of each period. Pain has been constant in both ovaries for the past twelve years; more severe in the left; catamenia irregular and excessive. I first saw the case on the 3d of February, 1886. Uterus was in a normal condition, with the exception of some engorgement of the cervix. Both ovaries were exceedingly tender; nervous system broken down and mind evidently impaired. Menstruation appeared on the 26th of January, was very excessive, more so than usual. As each menstrual flow was more profuse than the one preceding, and as there was but little hope for relief from the menopause, normal ovariotomy was proposed.

Operation February 8, 1886. Assistants, Drs. Wheeler and Anderson and a trained nurse. The abdomen was opened by an incision of three and a half inches below the umbilicus. The ovaries were not adherent, but as the pedicles were short they were drawn out with some difficulty. After applying the ligatures both ovaries were removed. The tubes seeming to be healthy were not disturbed. One ovary was cystic and contained a corpus luteum of the late catamenia; the other was thick, shrunken and corrugated. The patient was very much exhausted after the operation, which occupied only 24 minutes, and was troubled with nausea and retching for several hours. Pulse was very feeble and slow, not more than 35 beats to the minute. A few hypodermic injections

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of brandy soon brought it up to the natural standard, and soon there was a good reaction. The patient improved steadily every day, and on the 10th of March returned to her home. Nothing but good reports have come from her since the operation. She seems to be perfectly well, is entirely clear of pain, and there has been very little discharge since the operation. On the 21st of March there was a very slight discharge and there was again, on the 18th of June, barely a sign. Since the latter date there has been no discharge of any kind, and perfect health seems to reign. Appetite and digestion are good. She is bright and cheerful, and all indications of mental disturbance have disappeared.

VESICO-VAGINAL FISTULA.

By Thos. S. Burbank, M.D.

Clara C., primapara, aged 30, single ; nativity United States ; occupation house-servant ; menstruated at 14 ; menstruation regular and painless. Family history good. Has always enjoyed good health up to present illness. About eight months prior to my first visit was delivered of a full term male child, after a labor of seventy-two hours.

On visiting patient, twelve miles in the country, I found her in bed, very much emaciated, with an anxious, painful countenance, indicative of extreme suffering ; bowels constipated, pulse accelerated, weak and compressible, tongue coated with a slimy white fur, skin dry, temperature 101½°, thirst, anorexia and urine dribbling away, the whole room scented with an ammoniacal odor.

The following history was obtained from patient : Eight months previous she was confined, labor lasting seventy-two hours, very hard but natural. Everything progressed favorably until the end of the first day, when, to use her expression, "the child stopped." Pain continued irregular, slight at times, then very severe, until from exhaustion they ceased altogether. In this condition she remained until the close of the third day, when a physician was sent for, who, after much trouble, succeeded in delivering manually. Retention of urine with vesical tenesmus followed and continued for one or two days, then all desire to pass water was gone, and she

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found urine passing in discharges. (She judged so from smell.) After recovering from the effects of labor her diagnosis was verified by the loss of all desire to evacuate bladder, the parts and clothing being constantly wet and a strong smell of urine about her person.

The labiæ, nates and inner side of thighs became abraded, sore and painful, and she began to lose strength. In this condition she remained, growing gradually worse until I saw her.

After learning her history and making the foregoing examination, I proceeded to make a digital examination per vaginam. Without assistance or an anæsthetic, I found this anything but an easy or pleasant job. The parts were much swollen and exquisitely tender, but after much pain to patient and worry to myself, I succeeded in developing the following facts: With left index finger introduced into vulva and passed along anterior vaginal wall, simultaneously a silver female catheter passed through urethra into bladder with my right hand, patient in recumbent posture, knees flexed on abdomen, I discovered vagina bathed in fluid and a quantity of a hard cretaceous substance adhering to its walls (which on analysis proved to be phosphates), a rent in anterior vaginal wall, involving fundus of bladder, large enough to freely admit my index finger. I could feel catheter in bladder.

Using all palliative means in my power, and advising an early removal to my town, I left her. The third day following she presented herself for treatment. I immediately regulated the secretions, put her on general tonic treatment with mild astringents locally and enjoined perfect cleanliness. After bringing her up to the highest point of tonicity attainable, I proceeded, with the valuable assistance of Drs. L. S. Yeates and E. Ewell, to perform Sims' operation for vesico-vaginal fistula in detail. Being a novice, I found some difficulty in paring and fitting edges properly, but finally succeeded, introduced six silver sutures, shouldered and twisted them, washed out bladder thoroughly with tepid water carbolized; patient put to bed and sigmoid catheter introduced; pain was slight and no constitutional disturbance followed operation, though no anæsthetic was used. Catheter removed and cleansed and vagina washed out with warm carbolized water every morning; diet light and nourishing; morphia for pain and restlessness, together with an occasional enema to relieve bowels constituted the treatment.

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On fourteenth day sutures removed, bladder injected, no leak, patient kept in bed with catheter in position for several days, was on twenty-first day allowed to sit up and discharged. Three weeks after patient again consulted me for slight dribbling of urine. Examination in Sims' position revealed fistula sufficient to admit ordinary knitting-needle; her physical condition being good, after trying cauterization and other means with no result, I determined to perform a second operation. After removing stitches I found parts in worse condition than before operation, and failing in two other attempts to get the much desired union by Sims' method, I determined to try Simon's, using Sims' position. A ring of tissue around fistule, including mucous membrane of bladder, was taken out and opening brought together by silver sutures passed through vesical mucous membrane, patient not confined and no catheter used. No disturbance followed, no dribbling and urine voided naturally. Stitches removed on fourteenth day, no union and patient's general condition bad from an attack of malaria, precluding all chance of an immediate operation. I was at a loss how to prevent the escape of urine and a repetition of her former suffering until I could tide her through her malaria, and again get sufficient tonicity to hope for benefit from another operation. To meet this difficulty I devised a dumb-bell made of the finest surgeon's sponge, thoroughly cleansed and disinfected it and buttoned through fistule. The effect was all that could be desired—perfect retention of urine, no vesical disturbance and patient able to resume her duties as house-servant. The sponge was worn several months, patient regained her former health, and, with the assistance of Dr. W. H. Harrell and Mr. H. L. Williams, a medical student, I proceeded to perform a sixth operation (after Sims'), determined to "do or die," with the happy result of perfect union and a cured patient.

WORSHIPERS OF SMALL-POX.—There is nothing, however monstrous or grotesque, that is deemed unfit for worship, says Mr. Saltus in his "Anatomy of Negation." In Benares there is a shrine to small-pox, in Gaya there is one to the police. Perhaps in this city there will soon be one for both.—*Med. Record.*

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OBSCURE SYMPTOMS FOLLOWING THE INGESTION OF BEANS KNOWN AS FORTY-FOOT BEANS.

By D. B. Frontis, M.D., Wadesborough, N. C.

Case.—Jimmie K., male, 20 months old. On October 25th the child was seen playing with a number of pods of the bean (*Dolichos lablab* (*purpurea*) known as the forty-foot bean, grown for ornamental purposes. At 12 P. M. had five or six convulsions in rapid succession. Temperature 102.50°. October 26th at 1:30 P. M. had another convulsion. On October 29th Dr. E. F. Ashe, the physician in charge, left town for a few days, and I was called at 11 A. M. The parents informed me that 102.50° was the highest temperature the child had had, but had been very nervous and restless all the time. Almost constant twitching of the muscles. When awake frequently rubbed his nose. The parents pointed this out at once, saying it had been constant since first taken, and they suspected worms. I regarded it simply as a symptom of intestinal irritation. The bowels had been opened freely with calomel by Dr. Ashe, but there had been no action for twenty-four or thirty-six hours previous to the time I took charge. At 11 A. M. temperature was 102.8°. Pulse slightly accelerated. Respiration normal. Child rather drowsy. Would awaken frequently with contraction of facial muscles from apparent pain in bowels, flexing lower extremities on abdomen, but would not scream or cry much. Pupils normal and responsive to light. Slight swelling of the tonsils, no redness or deposit. Abdomen full and soft, no tympanitis. Antipyrin grs. 12 was given whenever temperature went to 102.5°, and quinine grs. ij every 3 hours. The temperature would be reduced to 100° or 100.5° by the antipyrin and would remain so for four or five hours. Gave ol. olivæ. ʒj ol. terebinthinæ gtt. j every 2 hours as a soothing laxative.

Saturday, October 30.—Temperature ranged higher, marking 103° at 1 P. M. Gave no quinine to-day and antipyrin at long intervals. Discontinued quinine, as it induced nausea, and I could not satisfy myself that there was any malaria in the case. Drowsiness very pronounced. Subsultus tendinum decreased during the day. Early in the morning I prescribed the following sedative mixture :

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℞.—Tr. belladonnæ..... 3 j
Aq. lauro-cerasi..... ..... 3 ii
M. Sig. Five drops every 2 or 3 hours.

After giving eight doses of the oil and turpentine mixture, gave two large enemas of oil at interval of one hour. No action other than enema and a few small scybula. Went back to the use of oil and turpentine every two hours. As the day advanced stupidity and somnolence increased. Pupils remained unchanged. Respiration normal. Pulse began to show a peculiar and rythmical ebb and flow. At one moment it would be 100 and normal in quality. It would then gradually increase to 160 per minute, small and wiry, then gradually decline again until apparently perfectly normal. I noticed this carefully for sometime, the ebb and flow occupying from two to three minutes. The child slept nearly all the time. Would have to be awakened to give medicine, and would relapse into slumber almost immediately. Noticed that cervical muscles were perfectly relaxed, would not hold his head up. At night ordered the child rubbed over abdomen and flexor surface of the limbs with oleate quinine 5 per cent., diluted one third with olin oil. This was continued every four hours. Very early Sunday morning, October 31st, the little patient had two good actions that were perfectly healthy-looking except containing two whole beans and what was probably three or four that had been bitten into pieces. He immediately began to revive from his somnolent condition and was much brighter, and, indeed, playful, although the temperature ranged from 100° to 102° during this day. In the afternoon it was discovered that there was a good deal of swelling in left parotid region. Left tonsil slightly swollen. A liniment of turpentine, camphor and sweet oil was applied externally.

November 1.—Parotid swelling has subsided very much. Still a little fever and the use of oleate quinine was continued.

November 2.—Left ear began discharging a little thin pus and blood. Convalescence from this on rapid.

REMARKS.

I was troubled in this case to make a positive diagnosis. That there was something acting as irritant to gastro-intestinal tract I thought probable. At first I supposed the fever to be malarial, but

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the exacerbations were too irregular and the child certainly got well on a minimum amount of quinine. It is true the oleate was used after internal administration was abandoned, but I question very much whether enough quinine entered the system to have any anti-periodic effect. The somnolence was the most striking symptom, and this increased gradually from the time the case came under my treatment until the beans passed. The sleep was so tranquil that one would hardly suppose the child sick, if attention were not drawn to the muscular twitching and the occasional spasm of pain that would cross its features. When I was informed that the child had been playing with these beans and was questioned as to their being poisonous, I remembered that I had frequently heard them spoken of as poisonous, but knew nothing about their specific effects. After the beans passed I was strengthened in this supposition, although I have not been able to find any corroborative testimony. I acknowledge it is possible to explain the symptoms as a result of irritant action, modified in some manner by the peculiar temperament or constitution of the child. But there is unquestionably a tradition among housewives that the bean is poisonous. It is evident that if it has any toxic effect it is quite mild. The child swallowed these beans on Sunday and did not pass them until early the next Sunday morning. The first spasms were undoubtedly the result of irritant action. But why did the spasms cease before the irritant passed away, and why the marked somnolence without apparent cerebral trouble? After I took charge I gave no remedies that could possibly have had this effect. The beans were rather hard, and it is reasonable to suppose that whatever specific effect they might possess would be slow of observation. The bean did not irritate the bowels to the extent of producing any gastro-intestinal catarrh, for the actions with beans and afterwards were perfectly healthy. There was no obstruction, the bowels had acted freely from calomel. The complications following, the parotid swelling and aural abscess, I cannot think had anything to do with the symptoms previous to the passage of the beans. Somnolence was most marked on October 30th. Ear did not begin to discharge until November 2d, three days afterwards. This was a very trivial affection, for it soon ceased.

A verbal report of this case was made to the Anson County Medical Society, and our President, Dr. W. H. Battle, of Lilesville,

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made inquiry of Prof. Holmes, of the State University, who replied that the bean was not only not known to have any toxic effect, but was considered edible. I also wrote to Dr. Thomas F. Wood, of Wilmington, who very kindly investigated the matter for me, and made me a report similar to that of Prof. Holmes.

[NOTE.—*Dolichos lablab var. purpurea* (Nat. Ord. Leguminosæ) is the plant referred to above. It is known commonly as the *hyacinth bean*, and is much cultivated as an ornamental lattice vine. It was imported from India in 1814. Its fruit, which is a bean, is edible when cooked, and so is the tuber of an allied species. The flowers are about an inch long, in showy purple elongated racemes. The pod is thick, broadly oblong and pointed. The seeds are tawny, with a white scar. The bean, therefore, may be considered harmless when cooked, but like many beans and peas which are used as articles of food, producing serious symptoms when taken raw, symptoms which cannot entirely be accounted for upon the fact that they act as foreign indigestible substances.—EDS.]

SELECTED PAPERS.

THE INTESTINAL SUTURE.

By OTIS K. NEWELL, M.D., Assistant in Anatomy at the Harvard Medical School, Boston. Read before the Surgical Section of the Suffolk District Medical Society, May 5, 1886.

The subject of intestinal suture is one of such great interest and importance to-day, that I cannot do it full justice in this short paper. But I have endeavored by a brief review of its early history and a more close consideration of its development in the past few years to give a clear idea of the technique of the modern operation.

That this operation also is "no new thing under the sun," is shown by the fact that it was known to Celsus and practiced by many of the surgeons of early times. But notwithstanding that here and there isolated cases were operated upon, and intestinal wounds united by suture in some manner, it was still generally believed that, to meddle in any way with a tender and inflamed intestine, and above all to introduce sutures into it, was a grave

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and entirely unwarranted procedure. Total division of the intestine was, up to the beginning of the eighteenth century, looked upon as a necessarily fatal condition. Palfin taught, in 1710, that intestinal wounds could not unite, and advocated stitching the bowel to the abdominal wall so as to establish an artificial anus.

But the fact remains that many ingenious and often successful methods were adopted for the closure of intestinal wounds. In the Middle Ages Abulcasem and others made the most daring experiments with this operation. Roger united the intestine over a piece of elder tube, other operators used rolled pasteboard cards, pieces of candle, cork, swine's bladder, dried intestine and the trachea of an animal.

The latter appears to have been the favorite among the materials thus used, and this method received the name of the Suture of the Four Masters, from its having been used by the four celebrated monks who practiced surgery together at Paris in the middle of the thirteenth century. I may here state that, according to Rydygier, all references to intestinal suture performed in early times, are made in regard to transverse or longitudinal wounds, as the first recorded resection with union of completely divided intestine was the operation done by Duverger in 1837. It is useless to discuss here how the great authorities of different times, and contemporaneous operators, differed in regard to the safety of intestinal suture. Scarpa was opposed to every suture, while Jobert, Reybard, Larrey, Lembert and others were in favor of their use.

In all the early methods, however, the main idea was to approximate the edges of the wound, in a general way, so as to give them an opportunity to heal together, but no definite rules were given for uniting them in any particular manner.

The great epoch in the history of this operation came in 1826, when Lembert, then an interne in one of the Paris hospitals, and a contemporary of Jobert's, who was also an interne, declared that in order to obtain union of sutured intestinal wounds the great essential was to procure careful apposition of the serous coats, and since then this has been the established fact upon which the foundation and success of all following methods have been based. Owing to a misprint in the first publication of the method Lambert was substituted for Lembert, and hence the frequent misquotations made even at the present time.

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But a short time previous to Lembert's discovery, Jobert had published an account of his Invagination Method, and it is not at all unlikely that in the study of it Lembert's idea found its source.

This consisted in invaginating the lower end of the bowel, and then drawing the upper down into it and fastening it in place by means of sutures, two or more in number. These sutures passed through the whole thickness of the bowel and were intended to finally cut their way through and pass off with the stool. This method approximates the serous coats more or less closely and gives quite good chances for union. Its disadvantages, however, are that under ordinary circumstances it is impossible to determine which is the upper end and which the lower end of the bowel. The calibre of the intestine is also too much reduced and the edges of the intestine form a flap, which, if the bowels have been inverted in position, will act as a valve giving rise to more or less, often complete and fatal obstruction. It is also necessary to separate the mesentery from the invaginated and inserted portions of the bowels, and this may cause some local gangrene from loss of blood-supply.

Reybard's method was particularly adapted to the closure of intestinal wounds with loss of substance. A thin piece of wood was inserted into the intestine, large enough to overlap the edges of the wound To the centre of this was attached a double thread, each end of which was passed through the abdominal wall at one side of the external opening, and the bowel then drawn firmly against the wall of the abdomen so as to enable it to become attached, and thus close the wound.

This method, like that of Palfin and other operators who insisted upon the necessity of fastening the bowel in some manner close to the abdominal parietes, had the advantage of giving the best chance, should union fail to take place, for the formation of an artificial anus, or a localized abscess by means of peritopeal adhesions.

Undoubtedly when union of the intestinal wound did occur after these operations it was because the serous surfaces had been well brought together, but that this was the great essential, none of the operators up to the time of Lembert had recognized. He, as already mentioned, was the first to discover the fact, since abundantly proved by experiment, that inflamed serous surfaces when in contact tend to unite with great rapidity. A serous and mucous coat will not unite,

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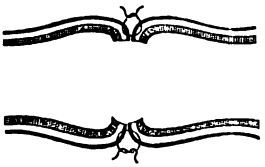

Fig. 1.

Fig 2.

and mucous surfaces heal together but slowly. Lembert, therefore. made his suture so as to give the best opportunity for this adhesion of serous surfaces. Figs. 1, 2 and 3, in which the suture includes only the serous and muscular coats, illustrate the manner of making this suture.

Fig 3.

As readily seen, the edges of the wound are always nicely inverted when the stitches are drawn together, Lembert used the interrupted stitch. Numerous modifications of this suture have since been made, and from among them the operator of to-day must make his choice.

Before considering the modifications of Lembert's suture, it will be interesting and possibly of value in connection with emergency cases, to speak of a few methods in which Lembert's principle has been applied without the use of sutures, or with but slight aid from them.

Dedan's ingenious apparatus for uniting completely divided intestine consisted of three rings of silver or tin. Two of these were similar and of a diameter slightly less than that of the intestine. The third was equal in length to both the others, but smaller in diameter. The two shorter rings were inserted into the bowel and the ends of the latter invaginated over their inner surface. The third ring was then passed inside of these, so that the divided ends met midway upon it. The whole apparatus was held in place by passing a suture threaded at both ends, first close to the edge of the rings above and through the inner ring, then out again at the edge of the rings below. At each end the needles were now passed in at the point of the former needle puncture, and then up between the outer rings and the bowel to where these rings came together. The needles were finally passed out through the intestine and the suture tied together. The rings were thus held in place and the serous surfaces enabled to unite. After a time the

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edges of the outer rings cut their way through the portion of bowel included between them, and the apparatus passed off with the stool.

The method of Beranger-Ferand is also very ingenious, and was for the union of transverse or longitudinal wounds. Two thin pieces of cork were cut into prismatic shape with a width of about six mm., a thickness of two mm., and a length slightly greater than that of the wound. Small insect-pins were passed through these, their heads being covered in with sealing-wax. One of these pieces was in roduced into the bowel and the pins passed through the edges of the wound on one side about two or three mm. from its border. The other piece was placed in a similar manner on the opposite side. The edges of the wound were then inverted and the two pieces pressed together. An additional safeguard to their separation may be made at either end by inserting a piece of bent wire, and, after the two pieces have been united, pressing this in from the outside. The wound was thus held together and the serous surfaces allowed to unite. The portion of bowel included between the pieces of cork soon ulcerated through and the apparatus passed off with the intestinal contents.

Amussat passed the ends of the divided bowel over a piece of cork deeply grooved in the centre. The ends were made to overlap slightly and the bowel then tied tightly down into the groove with a ligature. This also accomplished the desired result, and after a time was discharged from the bowels.

Many other methods of suture, such as those of Gely, Emmert and other operators, are ingenious and interesting, but as they are no longer of much practical value, their description will be here omitted.

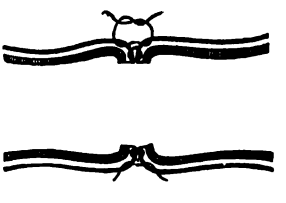

Fig. 4.

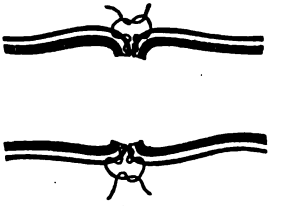

Fig. 5.

Probably the first change in Lembert's style of suture was that made by Czerny, who proposed to unite not only the serous coats, but the edges of the wound as well. This he accomplished by using a double row of sutures (Fig. 4). This forms a sort of "Etage Naht," and is

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certainly, aside from the time it requires, a valuable adjunct, as it serves to protect the Lembert stitches by keeping the intestinal contents away from them. When this suture is made with the Kürschner stitch for the first row it does not require much time.

Gussenhamer then thought of doing this all with one suture and made his figure-of-eight stitch (Fig. 5). This is an ingenious but complicated suture, and has the objection that should the lower portion ulcerate through, the whole stitch would become loosened and thus give rise to the escape of intestinal contents.

The Kürschner suture is a continuous one and (Fig. 6) is made by tying the first stitch and then proceeding as with any continuous suture, puncturing the intestine from within outwards, and fastening the whole when completed with a seamstress's knot. This is a very rapid and simple suture and closes the wound nicely. Nussbaum prefers it to all others, and says: "The simple interrupted suture like Lembert's is very much harder to make, the needle must be laid aside ten or twenty times and the scissors taken in hand, while with the Kürschner suture this need be done but twice."

Fig. 6.

The remaining methods of intestinal suture which I am to describe are of very recent date, and have been used altogether for uniting the ends of resected intestines.

First, we have the method of Neuber used in operating for the cure of artificial anus and made as follows: A circumscribing incision was made through the skin about the anal orifices. The skin was then dissected away from the fascia beneath, and the edges of the flaps thus formed united with a continuous suture so as to prevent the escape of intestinal contents. The ends of the intestine were then loosened and brought down (Fig. 7). The abdominal wound was now closed by provisional sutures, as recommended by Madelung, so that just enough room remained for the ends of the intestine drawn through the wound (Fig. 8). The intestine thus constricted closed the abdominal wound, and prevented the entrance of fæcal matter into the field of operation. The bowel was now held by digital compression, and, after removing a sufficiently large piece of mesentery and tying the bleeding vessels, the ends were cut squarely off (Fig. 8). Neuber now sutured the ends of the bowel together over a piece of decalcified bone tube.

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This tube was about two cm. in diameter, and turned so as to bulge in the central portion and have a deep groove in the middle line (Fig. 9). The sutures were made as follows: First, before inserting the tube, the ends of the bowel were united by two or three interrupted sutures, taken at the mesenteric insertion. The tube was then inserted

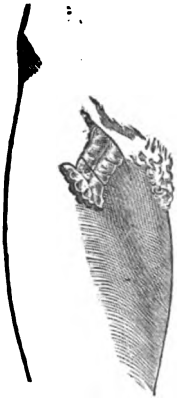

Fig. 7.

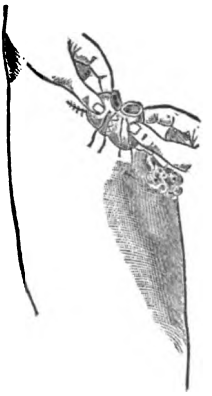

Fig. 8.

and the ends of the bowel drawn closely together over it. The ends were now united by a number of Lembert stitches (Fig. 10 *a*). The intestine was then drawn down into the groove by means of a constricting "suture" or ligature (Figs. 10 *b* and 9), and finally, in order to get a most exact union of serous surfaces, still another row of interruped Lembert stitches was taken about one cm. apart (Fig. 10 *c* and Fig. 9). Thus finally (Fig. 10 *c* and Fig. 9) there was, in the

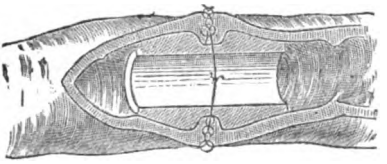

Fig. 9.

depths of the groove the first row of interrupted sutures, then the constricting "suture" or ligature, and finally an outer row of interrupted sutures.

As advantages of this method Neuber claims, first, the ease with

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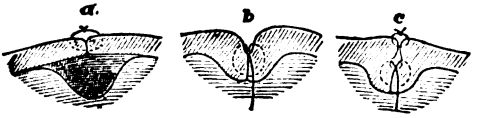
which it is performed, it being much easier to sew upon a firm foundation than otherwise. Secondly, the wound of the intestine is protected by the tube from contact with the intestinal contents. Neuber, to obtain the best possible asepsis, powdered a little iodoform into the groove. Thirdly, the tube maintains a free passage for the intestinal contents, which is not always the case with some of the other methods, where at times the collection of fæcal matter above the wound owing to more or less stenosis forms a serious and even fatal complication.



Fig, 10.

The intestine has been united in this manner after resection at the Kiel clinic three times, twice by Neuber and once by Schlange, and each time with success. Experiments upon animals have shown that after from four or five days the decalcified tube disappears. In the cases at the Kiel clinic careful examinations of the dejections failed to give any trace of the tubes.

Professor Madelung, of Bonn, having in view the fact, well established in experimental pathology by Lister, Maas, Tillmans, Rosenberg and others, that pieces of living tissue or other substances, when made aseptic, could be placed in the peritoneal cavity, and there become imbedded or encapsuled, and gradually absorbed without causing suppuration, devised what he calls the cartilage-plate suture. This suture is made as follows: The costal cartilage of a young calf is first cut in thin slices, which should have about the thickness, Madelung says, "of sections made by beginners in microscopic work," and the circumference of a small lentil, from four to six millimeters. These slices are prepared in the same manner as antiseptic silk. The ends of the bowel are first united with a Kürschner suture. A No. 12 needle is now threaded so that its eye comes at the middle of the suture. The ends of the suture are then tied together in a double, or better, a treble knot. The needle is now passed through the centre of one of the cartilage-plates, and the same drawn through until the knot comes firmly against the plate. With the suture thus prepared, the needle is passed in the usual manner through the sero-muscular layer

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of both ends of the bowel, and then through a second cartilage-plate of the same size as the first (Fig. 11). The suture is now cut off close to the needle, and again tied in a treble knot firmly down to the second plate (Figs. 11 and 12).

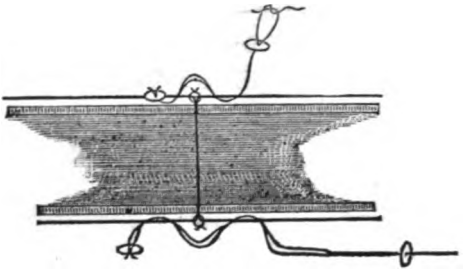

Fig. 11.

With the use of this suture, Madelung claims that it is possible, with a much smaller number of stitches, to obtain sufficient contact of the serous surfaces. Circular cutting through of the tissues by the suture is here avoided. If the wound of the serous coat made by the needle is enlarged a little by drawing upon the suture, the cartilage-plate will cover in this opening. Madelung hopes that his suture will not be looked upon as too complicated, and affirms that it is simple and practical in its application.

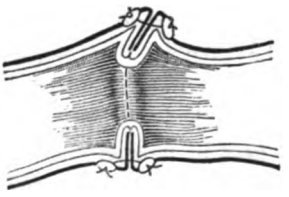

Fig. 12.

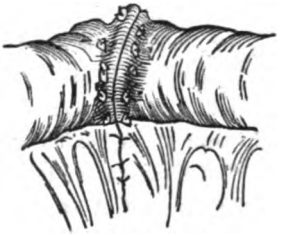

Fig. 13.

Mr. Bishop, of Manchester, England, has recently devised a very ingenious suture, a full and illustrated description of which will be found in last year's January number of "Braithwaite's Retrospect." This suture is unnecessarily complicated, and presents no particular advantages. Besides, being made in a single row, it should not

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involve the mucous coat, which it does. It has only been used in experimental operations.

So much for the different methods of suturing the intestine. From the first Lembert suture made with the single interrupted stitch, down to the most recent of the after-coming methods, which I believe to be those of Neuber and Madelung, all have been sufficient to secure, with varying frequency of success, union of the ends of a divided intestine, or the edges of transverse and longitudinal intestinal wounds. No method has yet been devised which stands preëminently above all others. That one is the best which secures and maintains the most perfect and undisturbed contact of the serous surfaces with the least reduction of the intestinal calibre, and it will be a matter of personal choice and experience in deciding which one best answers these requirements.

The various forms of intestinal suture may be applied to any part of the alimentary tract from the œsophagus downwards, but their most frequent application comes after resection of the pylorus, or some part of the large or small intestine. This may be for the cure of (1) anus-preternaturalis or fæcal fistula; (2) gangrene following incarcerated hernia or intussusception; (3) malignant growths; (4) where adhesions to an abdominal tumor are so firm as to necessitate removal of a portion of the intestine or ligature of its blood-supply; and (5) stricture due to ulceration or other causes. Recently a new application has been found in Wölfler's operation of gastro-enterostomy, a procedure similar to the method illustrated in the "Surgical History of the War of the Rebellion," for uniting two simultaneously-wounded knuckles of intestine, with Gely's suture. Wölfler's operation, suggested to him by Nicoladoni, during a pylorus resection, where, on account of too extensive disease, the pylorus could not be removed, consisted in taking the loop of small intestine nearest the stomach, and, after making a longitudinal opening in it, and a corresponding one in the stomach, a finger's breadth above the gastro-colic ligament, uniting the two by sutures, this being done instead of forming an intestinal fistula.

Let us now consider in detail the manner of making the intestinal suture. As there are now very few cases of intestinal lesion, which, if they lead to suture at all, would not be best treated by total resection of the affected portion, I will speak of the suture as applied in the latter operation. It is to be hoped that it is no longer

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necessary to urge the strictest adherence to the rules of antiseptic surgery, and also that any surgeon who will take upon himself the responsibility of such an operation, should it come as a case of emergency, has always in readiness all of the necessary materials, such as antiseptic sponge material, silk, catgut, needles, etc. It is also necessary to have practised the operation a number of times on post-mortem material, or in experimental operations. The operation should never be hurried; within reasonable limits, the amount of time taken, one hour to one and one-half hours, is of no great importance. As far as the success of the operation as such is concerned, the greatest danger lies in failure to apply the stitches perfectly. If the operation is done in emergency, there is, of course, no chance to get the bowels into the most favorable condition, namely, as empty and antiseptic as possible, but where the operation is a premeditated one, this should always be done. The stomach, when involved, must always be thoroughly washed out, and other parts, when possible, well irrigated.

After the intestine has been drawn out of the abdominal wound, it may be held in position, either by applying provisional sutures to close the wound about it, as done by Madelung, or in the usual manner by the fingers and flat sponges or napkins placed beneath. To close the wound about the intestinal loop by Madelung's method, a number of sutures are taken through the abdominal parietes just as they usually are at the end of an operation, and after drawing the wound together tied in a beau-knot so as to be loosed at the end of the operation, when the bowel is to be replaced. They are then used with the additional necessary ones to close the abdominal wound. This method has also been used by Veit, of Bonn, in ovariotomies to prevent the protrusion of intestines while tying the vessels in the pedicle.

Now, when the intestinal loop is fixed, the bowel must be compressed above and below the portion to be resected, so as to prevent the escape of intestinal contents into the field of operation or the abdominal cavity. This may be done by (1) digital compression, (2) long-bladed forceps with or without covering, (3) provisional ligature with stout catgut or silk, (4) various clamps devised for this purpose.

Rydygier's clamp consists of two flat pieces of iron notched at the ends and closed in rubber-tubing. They are fastened with

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rubber-bands. Makins' clamp is a large bull-dog forceps with a screw closure, the blades to be covered with rubber-tube. I have had made a clamp similar to the Dupuytren-Blasius, one for the cure of artificial anus (Fig. 14). Its advantages are supposed to be that the blades, which are also to be covered with rubber-tubing, are kept parallel, and the pressure thus made equable. The screw is so arranged, by being weak and not bringing the blades entirely

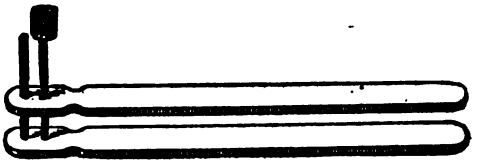

Fig. 14.

together, that too great pressure cannot be employed. When polypus forceps or other clamps closing at an angle are used, the pressure at the inner part is apt to be too great and give rise to sloughing.

Digital compression is very great, but in a long operation the fingers are apt to become very tired, and are, above all, much in the way.

A provisional ligature passed through the mesentery and around the bowel, closes the canal very thoroughly, but if tied too tightly will give rise to gangrene. It also wrinkles the bowels more or less, which may at times be an inconvenience.

After having closed the bowel in some manner, the next step is either to resect the desired amount of intestine with its triangular piece of mesentery and then tie the vessels, or tie the vessels first, and then remove the intestine and mesentery. It seems to me it is much better to first tie the vessels and then remove the bowel with its mesentery. The vessels going to the bowel can be plainly seen or felt, and the elimination of the blood-supply made with such exactness that very little, if any, bleeding will occur after the intestine is divided. The field of operation is thus kept much cleaner. The only objection to this method is, that it is said to require more time, but the difference, if any, is very slight, and not important.

One important point must now be remembered, and that is, to resect, no matter how much this may increase the difficulty or length of the operation, all intestine which has had its blood-supply

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removed. This, as already stated, is always easily determined. Operations which might otherwise have been brilliant in their results, have ended fatally through neglect of this point, the post-mortem examinations having shown that gangrene of intestine thus deprived of its blood-supply always occurred.

After the bowel has been resected any contents which may escape from the portions beyond the clamp, must be carefully wiped away and the ends thoroughly cleansed before commencing the suture. At this point, if no clamps have been used, it can be seen how difficult it is to distinguish the upper from the lower end of the bowel, for if both contain ingesta they will escape in about equal amount from either opening. The character of the escaping contents is an indication as to what part of the intestinal tract has been opened.

The intestines are now to be united according to the suture employed. The edges of the protruding mucous membrane may now be trimmed off, but this I think inadvisable and of no particular benefit. What seems to me to be the best of the simple sutures is, practically, Czerny's, but differs from it in having the first row made with a continuous suture. The first row may be made with the Kürschner suture. For the outer row I used in an experimental operation a suture, which I do not find described, but which may be called a continuous Lembert suture. This was what I understood to be Kürschner's suture, but that suture, as described and figured by Nussbaum, perforates all the coats from within outwards. The continuous Lembert suture is simple and a great saver of time. It is merely the Lembert stitch made with a continued, instead of interrupted, suture.

If the material for Neuber's or Madelung's suture is in readiness, they, too, might be used, and from the success which has thus far followed them, no failure of union having occurred, they are probably as certain, if not more so, than any of the others.

Bishop claims as advantages of his suture the fact that the knots are all made on the inside, and after ulcerating through, the stitches pass off with the stool. But the desired object to-day is to have the stitches become encapsuled or absorbed, and not cut their way into the bowel. This should be the case with one row at least.

In making the suture it is always best to begin at the mesenteric insertion. This is the most difficult part to unite, as the peritoneum over the mesentery is apt to tear away. If this occurs stitches may

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be later taken, outside of those that tear away. It is much better to hold the folded intestine gently between the fingers and sew with a straight needle and without forceps or needle-holder (Fig. 15). The intestine is thus injured as little as possible, and the suture, by avoiding the constant change from forceps to needle-holder, and *vice versa*, made more rapidly. In pylorus and other operations involving thicker parts, forceps and needle-holder should be used. The needle should be introduced so as to leave, in making a single

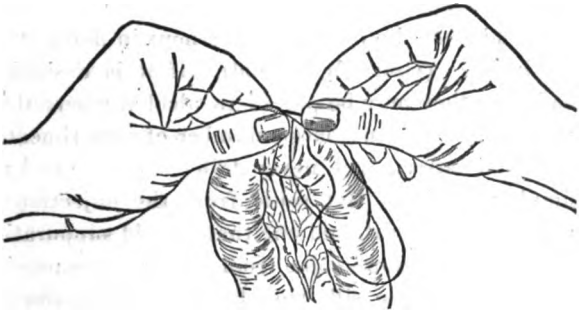

Fig. 15.

row suture, two or three mm. of intestine beyond the needle puncture nearest the wound border (Figs. 1, 2 and 3). Three or four mm. should be lifted upon the needle each time in sewing (Figs. 3, 4 and 5), and from the thickness of this portion, which can be well judged, it can be seen how much of the intestinal wall is being included in the stitch. The suture is now continued around the bowel. The stitches should be taken very close together, two or three mm. apart, as what may appear to be close stitches in the contracted bowel, will, when there is distention, as with flatus, be perhaps quite far apart. When this suture is ended it should be thoroughly inspected, and any point where good apposition is doubtful, or where the suture has torn away at all, reinforced with one or more extra single stitches. The edges of the mesentery should then be united with a few interrupted sutures. After removal of all clamps and other accessories to the operation which may have been placed about the bowel or elsewhere, the intestine is carefully cleansed and dropped back into place. The abdominal wound is then united in the usual manner.

The needles used should always be plain, straight, round sewing

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needles and of the smallest size. A No. 12 English Pearl sewing needle is what is generally used, threaded with the finest conjunctival silk or Japanese silk twist. A No. 10 or 11 needle seems to me to be sufficiently small and is somewhat more convenient to use on account of its length. The finest catgut may also be used, but it is less pliable, and above all requires a much larger needle, and therefore necessitates a larger puncture wound. The suture may be threaded while dry, and then disinfected. This is done by tying the ends of the threads together and holding the needles in forceps or otherwise, and then boiling them one hour in five per cent. carbolic acid solution. (Czerny's method). If it is desired to keep them in readiness they may be placed in alcohol where the needles will not rust. Rydygier, in a large number of experimental operations, always used catgut, and never failed to get good results in cases of simple resection. But aside from the objections already made to catgut, is the additional one that should suppuration occur about the wound, or pressure come from fæcal masses moving down from above the wound, the silk would be there to resist their tendency to separate the freshly united surfaces, long after the catgut had disappeared. The antiseptic silk becomes readily encapsuled and may be sewed or tied in anywhere. In order to become encapsuled it must of cour e remain antiseptic, and since stitches which perforate the mucous membrane must absorb more or less of the intestinal contents, they should, it seems to me, never be taken unless it is desired to have them cut their way into the bowel. In addition to this, such stitches make a puncture wound through the wall of the bowel, from which fluid contents may escape into the peritoneal cavity.

I have already stated that any disease or injury of the bowel excepting slight wounds, where intestinal suture is needed, would probably be best treated by total resection of the affected portion and union of the divided ends. This I hold to be so from the fact that other operations necessarily lead to a large degree of stenosis at the point of suture, while in uniting the ends of a resected bowel, the largest possible calibre is obtained. This may be still increased by adopting a method advocated by Madelung and Weber of dividing the ends of the bowel obliquely so as to increase the room for passage at the point of union.

From the nature of the intestinal blood-supply the edges of the

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bowel after resection are sure to have an abundant source of nourishment, and therefore, when properly sutured, to unite with certainty.

Finally, let us consider briefly the value of this operation. Statistics are of but little weight in this connection, as many of the early operations which were fatal in their results, owing to an undeveloped technique and imperfect or no antiseptic precautions, would have been followed in later years and to-day with success. This, I think, will be well seen in an analysis of seventy-three cases which had been collected up to April, 1881, by Prof. Madelung.

All of these seventy-three cases were resections, that is, complete division, with removal of more or less of the intestine, from a few inches up to 2.5 meters, as in Körberle's case.

Twenty-nine of these seventy-three cases resulted fatally, and as follows:

Fifteen died before the end of twenty-four hours, and one other case was probably as rapidly fatal, but owing to incomplete report this is not certain.

One death occurred on the operating table from the entrance of vomitus into the trachea.

Death never followed after the thirteenth day.

Death was due in one case to embolism of the pulmonary artery from an old venous thrombus of the thigh, and occurred four days after the operation.

One patient died from delirium potatorum, and an insane patient from œdema of the brain.

Twice death was due to other simultaneously received wounds.

In six cases peritonitis had already begun at the time of the operation, and was the cause of death.

Three deaths are referred to "wound shock" and inanition marasmus.

One death was caused by stenosis of the intestine, due to a pseudo-ligament below the point of suture.

Five times fatal peritonitis and acute sepsis developed immediately after the operation. In three of these cases fæcal matter escaped into the abdomen during the operation.

In seven cases death occurred during the period of convalescence, peritonitis following the escape of fæcal matter through the resection wound. Twice this escape of fæcal matter was due to incomplete resection of the gangrenous portion of the bowel, and in the

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other five to failure to completely close the wound with the suture.

Of these seventy-three recorded operations, fifty two, with thirty good results, were performed in the years from 1877 to 1881, and the successful operations in this period are, without exception, those of German, Swiss and Austrian surgeons; and Madelung says: "We have a right to be proud of the blossom to which this branch of operative surgery has come in our day, but we must, nevertheless, understand that only the first step has been made on the new way."

There is no longer any doubt as to the safety of opening the peritoneal cavity, granting, of course, that it is done in the proper manner. The peritoneum, far from being a membrane of the most vulnerable sort, as it was formerly regarded, bears with the greatest tolerance an astonishing amount of cutting, burning, tearing and manipulation. From the time when the surgery of the serous cavities was limited to a timid approach to the opening of some of the smaller joints, it went on to the free drainage of the chest for the cure of empyema; and so it will be, if it is not already, with the surgery of the abdominal cavity.

Numerous cases of peritonitis, where the parts have been found "glued together and bathed in pus," have been treated by abdominal incision and thorough washing out of the abdominal cavity with large quantities of water, and have made good recoveries. At our last meeting Dr. John Homans reported a similar case.

To two influences, however, the peritoneum is greatly susceptible, and they are septic absorption and loss of heat. Unlike the skin, naturally adapted to a moist, evaporating surface, from which, when exposed to the air, the loss of heat is constant and rapid. Wegner, in his valuable investigations and experiments, found, in a medium-sized woman, the area of the skin-surface to be 17,502 sq. cm., while that of the peritoneum was 17,182.

By exposing the peritoneum to rapid loss of heat, a reflex paralytic influence is exerted upon the heart, and unless warmth be rapidly applied, death occurs from collapse.

If an ice-compress is laid upon the exposed intestines of a dog, the heart instantly ceases to beat, while, as Wergner found, a stream of warm vapor may be directed upon them for seven or eight hours without injurious effect.

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Wegner further found that animals into whose peritoneal cavity he had injected large quantities of salt solution at the body temperature were never injured by the procedure, but moved about in as lively a manner as ever.

The capacity of the peritoneum for absorption, and, therefore, for infection, is indicated by the fact that in one hour fluid equal in quantity to eight per cent. of the body weight may be taken up from its cavity, and in two days an amount equal to that of the entire weight of the body. A quantity of chloral solution injected into the peritoneal cavity exerts an almost instantaneous soporific effect. The large peritoneal area and the peristaltic movements are also movements aiding the rapidity of absorption.

These facts present their own argument, and are clear indications of what it is necessary to avoid in peritoneal operations.

Let us, then, hope that when occasion arises for the application of intestinal suture, no traditions in regard to the dangers which it involves will prevent its being used according to the means of to-day, and many lives thus saved or made comfortable. Without exception, when done with no technical failure, the operation has, in the last few years, been successful, and where death has occurred, it has been not because the intestinal suture failed to accomplish its object, but owing to other conditions involved in the nature of the case.

In conclusion, let me say that to the consultation of various works, mostly recent German ones, I am indebted for the majority of ideas and figures presented in this paper.—*Boston Medical and Surgical Journal.*

IODOFORM POISONING.—Dr. E. G. Cutler, of Boston, after a very complete paper on the subject of iodoform poisoning, in the *Boston Medical and Surgical Journal*, advises: (1) Fresh wounds or unhealthy or tuberculous surfaces are the only ones fitted for the application of iodoform. (2) Only a thin layer or small amount of iodoform is to be applied. (3) When granulations appear healthy, iodoform should be omitted and some other non-poisonous substance substituted. (4) At the first symptoms of poisoning, or coincidently with the original use of it, compounds of the alkalies and vegetable acids are to be given by mouth at frequent intervals, as acetate of potash. If severe symptoms supervene, transfusion with common salt solution is to be resorted to, and the wound is to be washed free from iodoform with pure water and an alkaline carbonate solution, and afterward powdered magnesia is to be dusted on.

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ON THE MODE OF CONDUCT IN A CASE OF RETENTION OF PLACENTA AFTER ABORTION.

From a Lecture by P. Budin, Professor agregé to the Faculty of Medicine, Paris, Accoucheur to the Charité.

[Translated from the *Progres Medical* by Dr. W. H. Wenning.]

What is to be the conduct of a physician in cases of abortion, when the fetus has been expelled and the secundines remain in the cavity of the uterus? This question has been a theme for considerable discussion in the last years. Two complications have been observed as arising from the retention of the secundines, they are: *hemorrhage and septicæmia.* A certain number of accoucheurs, who look upon these complications as frequent, recommend constant intervention, when the adnexa have not folllowed the expulsion of the fœtus in the course of several hours. The methods of procedure recommended by them are numerous and varied. Some introduce the finger into the uterus and seek to detach, break away or remove the placenta; others resort to the forceps for the better accomplishment of this purpose; others again employ the curette, either dull or sharp. Mundé, for example, uses only the dull curette, and also recommends the avoidance of a force which might injure the woman. But the curette with cutting edges also has its partisans, to scrape the walls of the uterus and to withdraw the debris of the ovum. Lately, besides curetting with the sharp or dull instrument, the additional use of a tampon has been resorted to. In a certain number of cases the tampon is sufficient without a previous recourse to the curette.

It is, however, not always easy to operate within an uterus the dimensions of which are so small in the beginning of pregnancy, and whose cervical canal is hardly permeable; it may become necessary to practice dilatation, either with the finger or by means of mechanical dilators, as the sponge, laminaria or tupelo tent. To facilitate this method, some physicians seize the neck with a pair of vulsellum forceps and draw it down to the vulva. In short, all means are resorted to, and these means vary according to the nature of the case and the fancy of the physician, for the purpose of removing the secundines from the uterine cavity.

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Is this mode of conduct really rational and necessary? It seems to us that two things must be shown to render it justifiable:

1. That retention of the placenta is really a source of frequent accidents.

2. That all digital and instrumental manipulations to which recourse are had offer no danger.

First.—Is the retention of the placenta following abortion really a source of frequent accidents? We have collected all the observations made in our service at the Charité from the month of May, 1883, to May, 1886, and in addition to this, with the permission of M. Tarnier, have included all the cases of abortion which have been attended at the Maternité from July, 1883, to July, 1886. The following are the results:

Out of a total of 210 cases (57 at the Charité and 153 at the Maternité), there was 46 times retention of the placenta, giving a proportion of 22 to 100. The after period was habitually uncomplicated after complete abortion, and the morbidity was almost nil; but what were the observations in cases of retained secundines?

At the Charité there was never any hemorrhage when the delivery was slow. At the Maternité only twice was there slight hemorrhage. which came on at the moment of expulsion of the placenta.

Of 24 cases of retention observed at the Maternité, 21 presented no accidents, the puerperal state being normal. Three presented the following particulars:

One woman in whom the placenta remained in the uterine cavity, showed some signs of infection, which rapidly disappeared after intra-uterine injections of Van Swieten's fluid; another case, a victim of criminal abortion, who was admitted to the hospital with an elevated temperature, recovered rapidly; finally, in another patient, who had bronchitis and fever before her admission to the hospital, the placenta was expelled entirely in about sixteen hours. The offensive lochia disappeared completely after uterine injections, but the fever and all other symptoms which had existed at the beginning, increased, and the patient died from pneumonia fourteen days after the abortion.

To recapitulate, out of 210 cases of abortion, there were 46 cases of retention of the placenta. Accidents following this retention have been rare, only one woman died, and it is doubtful if her death could be attributed to septicæmia.

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Hence when women are placed in conditions favorable for asepsis, retention of the placenta is not so frequently a source of accidents as has been pretended.

Second.—Are all the digital and instrumental manipulations resorted to for the extraction of the secundines completely free from danger?

We will only ask those interested in this question to read carefully the observations which have been made up to the present day. They will see that the finger alone is generally insufficient in detaching the placenta and removing it entire. Forceps are managed with difficulty in the interior of the uterus, and often they will leave the remains of the secundines behind them. To the use of the curette, and especially the sharp curette, has been attached the chief blame as founded upon facts. P. Mundé says that they appear powerless in detaching the remains of a placenta situated in one of the horns of the uterus. In spite of a careful scraping of the uterus portions of the placenta have been left behind in the interior of the uterus, as the observations of Skjelderup and of Doleris have shown. In a case referred to by Moses, in which the uterus had been well scraped, washed and cauterized with perchloride of iron, he was not a little surprised to find next day expelled "a fœtus without legs, 6 to 7 centimetres in length, which, in spite of the use of the sharp curette, had remained in the uterine cavity without giving rise to any other symptoms." The curette acts blindly. It is also dangerous; in cutting healthy mucous membrane it opens the gates for infection, says J. Veit; a hemorrhage persists which is often very hard to arrest, of which Moses has cited a striking example. Finally, when one is obliged to have recourse to dilatation, it is not always free from danger: Schwarz, of Halle, has reported two cases of considerable laceration of the neck, one of which extended up to the broad ligament.

Thanks to the use of the antiseptic method, the results have not been so bad as one would believe; however it may be seen that these so-called preventive measures place the woman at the brink of septicæmia and possible hemorrhage, abundant loss of blood being not very rare. In one of the cases reported by Moses cauterization with the perchloride of iron was not sufficient to arrest hemorrhage, as the patient fell into collapse and he had to use the tampon. Not all

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patients have escaped septicæmia: Moses has noted an endometritis in four cases, and Mundé pelvic cellulitis; Fehling has observed three instances of grave pelvic abscess; Consentino and P. Mundé have observed death supervene in spite of treatment, or it was even due to the treatment itself.

Hence for our part, contrary to the opinion established by certain authors, the retention of the adnexa of the fœtus is only rarely the origin of complications, if recourse be had to antiseptics. On the other hand, of the different methods of intervention which have been counseled and put into practice, some are insufficient, others dangerous. Hence we never deem it necessary to interfere when, the fœtus having been expelled, the placenta remains in the uterine cavity. One may content himself with the observance of cleanliness and the use of antiseptic vaginal injections two or three times a day, and the secundines will be expelled spontaneously.

But when complications arise, grave hemorrhages or the phenomena of septicæmia, either because no antiseptic precautions have been taken or because unsuccessful attempts at extracting the secundines have been made, which often favor the rise of these accidents, what ought then to be done?

Without desiring to enter into the details necessary for each case in particular, we will resume in a few words the proper mode of conduct:

Against severe hemorrhage the tampon is the means par excellence, and the only one which is truly efficient; and when we speak of a tampon we mean one made of cotton or charpie, previously rendered aseptic by being immersed in a solution of carbolic acid, corrosive sublimate, etc.

If the phenomena of septicæmia exist in the beginning, vaginal antiseptic injections should be made every two hours or every hour. They often suffice and the complications cease entirely. If at the time of the first visit the symptoms of infection are very grave, or if these accidents do not yield readily to vaginal injections, recourse should be had to intra-uterine aseptic injections, employing a solution of corrosive sublimate, 1 to 2000 or 1 to 3000, or carbolic acid, 2 or 3 to 100, etc.

In making these intra-uterine injections care should be taken that no obstacle opposes the flow of the injected fluid; a ready flow can be

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secured by the use of the horse-shoe-shaped sound.* In this manner the cavity of the uterus is, in all probability, rendered aseptic, a result rapidly attained, as evident from the cessation of the fetid character of the lochia and the fall of the temperature. General treatment should not be neglected, and we should especially insist on the administration of the sulphate of quinia.

This method, practiced at the Maternité by M. Tarnier, and which we have followed at the Charité, has given the results mentioned above. It seems to us difficult to improve upon them.

It ought not to be implied, however, that this is expectant treatment, pure and simple, to which we have recourse. The old expectant plan, good as it was, has come down to our day, improved, thanks to vaginal and intra-uterine antisepsis. This treatment has thus been benefitted by the improvements which have been gradually made upon it.

We will add that this method—expectant and antiseptic, can be followed by physicians and midwives, which is no small advantage.—*Obstetric Gazette.*

*NOTE BY THE TRANSLATOR.—This sound, the invention of Budin, is a curved tube in which there is a hollow excavation, so that a cross-section of this instrument resembles a horseshoe. The fluid passes into the uterus through the hollow tube and is returned from the uterus along the excavation or gutter on its surface made by the depression.

PARASITIC BACTERIA AND THEIR RELATION TO SAPROPHYTES.

By THEOBALD SMITH. Read before the Biological Society of Washington, D. C., December 11, 1886.

* * * * * * * *

It is a curious fact that those bacteria which are strictly parasitic, and which have not yet been cultivated in nutritive media, or only with considerable difficulty, cause diseases which are very slow in their progress, often lasting for years and frequently checked and cured. Tuberculosis, syphilis and leprosy are illustrations of this fact. On the other hand, the diseases which are produced by bacteria that thrive in artificial media are usually quite rapid in their course. The conflict in the latter case is much fiercer and more quickly decided. In other words, the bacteria are more virulent. The better adapted

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the parasite becomes, the more compatible will it be with the host and the less capable of carrying on an independent existence. It is for the interest of the more strictly parasitic forms that their host live as long as possible. This is not necessarily so with those species whose life in nature may continue more or less independent of a parasitic existence.

The more perfect parasitic bacteria, manifesting their presence in very slowly progressive maladies, usually reside within the protoplasm of the cells, where the feeble irritation leads to a hypertrophy and then to a gradual destruction of the cell itself. The bacteria are probably taken up in the same way in which the amœba takes in solid particles. The cell endeavors to destroy them in this way, but their persistence within the cell-protoplasm indicates that the struggle has resulted in the victory of the parasite, which even finds the battle-ground a convenient place of abode. There are one or two rapid diseases, such as mouse septicæmia, in which this intra-cellular habitat of the microbes is always observed.

Another interesting feature which they share with entozoa is their limitation to certain species of animals. Some are peculiar to one species, others may thrive upon several. This susceptibility of certain animals to definite pathogenic germs is so constant a phenomenon that it has now become an indispensable means in the diagnosis and differentiation of bacteria, and in conducting investigations upon obscure points in the life-history which are of direct practical value. In other words, the smaller animals are to the pathologist what chemical reagents are to the chemist.

I have already stated that there are many entozoa, inhabiting the tissues of their host, which do but little harm, and which may measure their parasitic existence by years, while a few, such as *Trichina spiralis*, are now and then fatal. Corresponding with these gradations in destructive effect there are similar gradations of virulence among bacteria. Some produce only local disturbances; they are speedily destroyed and eliminated. Among these are the microbes causing suppuration. Others destroy organs and tissues very gradually, and are indirectly fatal by exhausting the vital energies or breaking down some organ necessary functionally to the processes of life. Among these may be mentioned more particularly the tubercle bacillus. Still others may cause death from within a few hours to weeks after their invasion. These include the microbes of septicæmia, cholera, typhoid fever. In

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general, however, the tendency of bacterial parasites is eminently destructive. The chemical poisons formed during their growth irritate and finally destroy the animal cell. If we pass from a consideration of the biology of these micro-organisms to the diseases of which they are the cause, a broad field of interesting facts lies before us, as instructive and suggestive to the biologist and the student of nature as to the pathologist and the practical physician. I can, however, merely glean a few facts which may serve to illustrate the relation of epidemics to the life-history of bacteria.

There is a certain group of diseases called miasmatic, because the poison seems to come from the air and the soil. With the light shed upon this subject in recent years, the micro-organisms, presumably the cause, live in the soil as their natural habitat. This class would include all strictly endemic diseases, since they cannot be carried at will to localities free from them. The cause, residing in the soil, must have certain conditions necessary to its life, and unless these are found in new localities, the disease will not take root. Though malaria is reaching out into new territory, we have never yet heard of a quarantine against its progress.

Another group includes maladies only transmitted from one subject to another. They are strictly contagious diseases, corresponding to the strictly parasitic bacteria, which cannot multiply outside of the animal body.

A third group, intermediate between these extremes, possesses, in a way, the characteristics of both. The micro-organisms may live both as parasites and saprophytes; and being capable of multiplying wherever the proper pabulum exists, the possibility of rapid diffusion, and hence of great epidemics, is readily conceivable. It is believed by some that for most of such germs a sojourn in the soil is a necessary preparation for the parasitic stage. Pettenkofer regards cholera and typhoid not contagious, but insists that the germs must first undergo some unknown changes in the soil before they again become capable of inducing disease, Hence the spread of epidemics depends as much upon certain external conditions as upon the presence of the agents themselves. This is controverted ground, however, and most authorities to-day are inclined to consider the air, the soil and water as simple vehicles for the spread of disease.

There still remain many obscure problems concerning the movement of epidemics, but their solution does not seem so far away, as a very

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firm foundation has been laid for future observations. This has been constructed from the life-history of micro-organisms. The application of the principles and fundamental facts of biology to the elucidation of the causes of disease and its prevention is once more brilliantly vindicated. Disease is no longer the mysterious, personified entity of the past. It has been brought within the domain of laws which govern all life upon the earth.—*American Naturalist.*

SUPPOSED ACTIVE INGREDIENTS OF POPULAR "PATENT PREPARATIONS."

"Neuraline," aconite with chloroform and rosewater. "Morison's Pills," aloes and colocynth. "James' Fever Powder," antimony. "Anti-Fat," Fucus vesiculosus or bladder wrack. "Hunter's Chloral," chloral with syrup of tolu and elder-flower water. "Fluid Lightning," an American application for neuralgia, aconitine, with essential oil of mustard, glycerine and alcohol. "Perry Davis' Pain Killer," spirits of camphor, tincture of capsicum, tincture of guaiacum, tincture of myrrh and alcohol. "Brown's Bronchial Troches," cubebs, conium, acacia, liquorice and sugar. "Lady Webster's Pills," powdered aloes, powdered mastich and petals of red roses in syrup of wormwood. The pills known as "Lady Hesketh's" and "Lady Crespigny's" have a similar composition. "Valette's Pills" contain sulphate of iron, carbonate of soda, honey and syrup. "Parr's Life Pills," aloes, rhubarb, jalap, extract of gentian, oil of cloves, soft-soap, etc. "Halloway's Pills," jalap, ginger and myrrh made into a mass with mucilage. Might give rise to dangerous symptoms if administered to young children or to persons debilitated by age or disease. "Holloway's Ointment," fresh butter, beeswax, yellow resin, vinegar of cantharides, Canada balsam, expressed oil of mace and balsam of Peru or liquid storax. It is said that "no two samples are of precisely the same color or consistence." "Mrs. Winslow's Soothing Syrup," morphia with essence of anise and syrup of balsam of tolu. "Mother's Friend," opium with carminatives. "Indian Tincture," capsicum, cannabis indica, ether and metylated spirit. "Mother Seigel's Curative

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Syrup," concentrated compound decoction of aloes with borax, capsicum, gentian, oil of sassafras, oil of winter-green, taraxacum, treacle and rectified spirit. "Reynold's Gout Specific," colchicum. "Blair's Gout Pills," finely ground colchicum corns. "Injection Brou," sulphate of zinc, sugar of lead, laudanum, tincture of catechu and water. "Locock's Pulmonic Wafers," lactucarium, ipecacuanha and squills. "Eau de Fleurs de Lys," "an infallible banisher of freckles," a milky fluid consisting of two and a half per cent. of calomel, a trace of corrosive sublimate and common salt, with water scented with orange flowers. "Eau de Blanc de Perles," an alkaline fluid with a thick deposit of about fifteen per cent. of carbonate of lead, scented with otto of roses and geranium. "Lait de Concombres" consists of soap, glycerine and cotton-seed oil made into a semi-emulsion with rosewater. "Norton's Chamomile Pills," aqueous extract of aloes, extract of gentian and essential oil of chamomile. "Kitchener's Peristaltic Persuaders," probably compound rhubarb pills with a little caraway. "Keating's Cough Lozenges," lactucarium, ipecacuanha, squills, extract of liquorice, sugar and mucilage of tragacanth. "Ruspine's Styptic," a strong solution of gallic acid in spirit of roses, and perhaps a little sulphate of zinc. "Roche's Embrocation," olive oil mixed with oil of amber, oil of cloves and oil of lemons (see *British Medical Journal*, January 5th, 1881). "Holt's Specific" (for whooping-cough), also known as "Hooper's," is said to contain half a grain a tartar emetic in the dose (see *British Medical Journal*), January 5th, 1884). "Cohosh" is actæa racemosa or cimicifuga. "Hamlin Wizard Oil" contains camphor, ammonia, sassafras, cloves, chloroform, turpentine and spirit. "Haarlem Oil" is a mixture of balsam of sulphur, Barbadoes tar, oil of amber, oil of turpentine and linseed oil. "Barker's Poisoned Wheat," for killing birds, owes its poisonous properties to Cocculus Indicus.

Much useful information concerning the composition of patent medicines will be found in Cooley's *Cyclopædia of Practical Receipts*, and in the *Anatomy of Quackery*, by the same author. See also Kilner's *Compendium of Modern Pharmacy*, 1882.—*Medical Register.*

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., " } Editors.

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* THE CAROLINAS. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* JOURNAL, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* THOMAS F. WOOD, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

ANTISEPTICS IN MIDWIFERY.

The extensive arrangements that have been set out as essentials in preparing for a labor, and in the conduct of the case after the birth of the child, by those of the leaders of thought in medicine who are the adherents of all the doctrines of Listerism, have given rise to much discussion, and the result is in nowise lacking in benefits. It is claimed by these advocates of extreme measures that it is necessary for the room of the lying-in woman to be stripped of all superfluous furniture and be left for her occupancy an almost empty space within the four walls, space only being

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allowed for the bed and such other furniture as is needed for her comfort. Moreover, her entrance into this chamber must be preceded by scouring the floors, walls and wood-work generally, this to be followed by washings of carbolic acid and corrosive sublimate, and the woman's person is alike to be made antiseptic to fit her to be an occupant of this newly made air.

The physician must subject himself to this cleansing process too, and his nurse must follow his example in the performance of these Listerian duties. The labor beginning, sublimate injections into the vagina, sublimated covering for the vulva in the interims of the examinations, frequent cleansing of the hands of the accoucher, and dippings into sublimate solutions of the hand which he uses, frequent carbolized or sublimate injections and antiseptic dressings for the external genetalia to follow the labor, and the introduction of iodoform suppositories into the vagina to complete the dressings, all make this ritual very onerous. The whole lesson is summed up in these few words, that cleanliness shall be strictly enjoined on the persons engaged in aiding the woman on this trying occasion, and if it may be, as it has been accomplished, without these numerous arrangements, then it is safe to follow in the footsteps of those whose results in midwifery practice compare favorably with those related by the apostles of the newer doctrine. We do not doubt that great good has followed from the introduction of Listerism, and we only wish to object to the claim that all these measures are always necessary. We do not believe that labor and its attendant incidents is to be taken out of the class of normal actions and be placed among the pathological, and we cannot believe that it is necessary to subject the woman whose labor has been normal, to the danger of poisoning by carbolic acid or corrosive sublimate. There lies a safe middle course, and in it safely walk the intelligent physicians, true to their belief and practice that conservatism is the true guide, and extreme methods are only to be used for cases of peculiarly dangerous character.

We regret to know of the impaired health of Dr. Joseph Jones, of New Orleans. Dr. Jones has long been esteemed and held in honor among the profession of the country, and his study of diseases peculiar to the Southern climate has given him special prominence

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in this region. He has just issued the second volume of his clinical observations, and, like its predecessor, it is full of instruction. We shall again refer to its contents, and at length. We are glad to add that the doctor assures us his condition is improving, and we shall indulge the hope of his complete restoration to health and to great usefulness.

In our last issue we stated that Dr. John McDonald's term of service as a member of the Board of Health would expire this year. In this we were mistaken. He retires in 1889, and Dr. R. H. Lewis, of Raleigh, who was elected to fill the unexpired term of Dr. M. Whitehead, goes out this year. The members whose terms expire this year and whose places will be filled by election at Charlotte, will be Drs. R. L. Payne, Sr., and R. H. Lewis. The vacancies which the Governor will fill will be those made by the expiration of the terms of Prof. Simmons, Mr. Winslow and Dr. Lyle.

To Arrest Nasal Hæmorrhage.—We take the following practical suggestion of Prof. John Chiene from the *Edinburgh Medical Journal:* "In persistent hæmorrhage from the nasal cavity, plugging the posterior nares should not be done until an attempt has been made to check the hæmorrhage by firmly grasping the nose with the finger and thumb, so as completely to prevent any air passing through the cavity in the act of breathing. This simple means, if persistently tried, will in many cases arrest the bleeding. The hæmorrhage persists because the clot which forms at the rupture in the blood-vessel is displaced by the air being drawn forcibly through the cavity in any attempt of the patient to clear the nostrils. If this air is prevented from passing through the cavity, the clot consolidates in position and the hæmorrhage is checked.—*Medical Age.*

Toothache from decayed teeth is said by a Swiss authority to be relieved promptly by cotton-wool moistened with a mixture of equal parts of camphor and chloral and a fifth as much cocaine.—*American Druggist.*

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SOCIETY NOTES.

The Medical Society of the State of North Carolina will hold its regular annual meeting in Charlotte, on Wednesday, Thursday and Friday, the 13th, 14th and 15th of April next.

We give below the officers, committees and chairmen of sections, as appointed at the last meeting :

President—H. T. Bahnson, Salem.

Vice-Presidents—G. G. Smith, Concord ; J. L. Nicholson, Richlands ; C. M. Poole, Salisbury; H. B. Ferguson, Halifax.

Secretary—Julian M. Baker, Tarborough.

Treasurer—R. L. Payne, Jr., Lexington.

Essayist—George G. Thomas, Wilmington.

Orator—J. M. Hays, Oxford.

Committee on Publication—Thomas F. Wood, Wilmington; George G. Thomas, Wilmington ; W. T. Ennett, Burgaw ; J. M. Baker, Tarborough.

Board of Censors—W. J. Love, George G. Thomas, W. W. Lane, Wilmington.

Committee on "Prize Essays"—R. H. Lewis, Raleigh ; W. J. Jones, Goldsborough ; and John McDonald, Washington.

Committee on "Pitman Prize"—H. T. Bahnson, Salem ; A. B. Pierce, Weldon ; W. D. Hilliard, Asheville ; W. T. Ennett, Burgaw; and Joseph Graham, Charlotte.

CHAIRMEN OF SECTIONS.

Practice of Medicine—Isaac N. Taylor, Morganton.

Surgery—Frank Brown, Greenville.

Medical Jurisprudence—Sion Rogers, Raleigh.

Pathology and Microscopy—D. T. Tayloe, Washington.

Obstetrics and Gynæcology—E. M. Littlejohn, Thomasville.

Materia Medica and Therapeutics—W. L. Crump, South River.

Diseases of Children—L. W. Battle, Durham.

The Board of Examiners will meet in Charlotte, at the Central Hotel, on Monday, the 11th of April, to allow candidates an opportunity for obtaining their license in time to join the Society on the first day of its session.

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REVIEWS AND BOOK NOTICES.

A Text Book of Medicine. By Dr. Adolf Strümpell. Translated by Herman F. Vickery, A.B., M.D., and Phillip Coombs Knapp, A.M., M.D., with editorial notes by Frederick C. Shattuck, A.M., M.D. Pp. 981. D. Appleton & Co., New York.

This is the latest and best exposition of the German practice of medicine, and we might say, of the best authorities on the continent of Europe.

The work begins without any of the introductory chapters on general pathological subjects, usual in many text books, an omission which is to be commended in view of the special volumes on these subjects now in the hands of the profession. But it considers all of the essential fevers, erupture fevers, malarial diseases, dysentery, septic and pyæmic diseases, hydrophobia, trichinosis, etc. These are all included under the head of acute general infectious diseases. The history and treatment of these diseases are clearly written and not unduly condensed. The first section includes under the heading of Diseases of the Respiratory Organs all affections of the nose, larynx, trachea, lungs, the bronchi and pleura. Of this section the most interesting article is the one devoted to tuberculosis of the lungs. The author says of the etiology of tuberculosis, that it is a fact that its origin is due to a micro-organism of a pathogenetic power sufficient to cause all of the manifold lesions of this disease, and in adopting thus bodily the theory of Koch, he declares his belief in its contagiousness. The sections on Diseases of the Circulatory Organs and the Digestive System are full, though nothing new is developed in them. Diseases of the Nervous System occupy the leading place in the work and the treatment of the subject comprises the best work of Dr. Strümpell. It is amply illustrated, and will bear searching criticism. In fact, it is equal to the best monograph on this subject. Diseases of the kidneys, of the organs of locomotion, and those affecting the blood and tissue-metamorphosis, occupy the three last sections.

The translation is done in excellent English, and Dr. Shattuck has added value to the work by his careful editorship and his timely notes. He has added also several articles on diseases of importance

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to the American physician, which attest his ability and fitness to supervise the issue of this work in this country.

How to Work with the Baush & Lomb Optical Co's (of Rochester, N. Y.) Microtome and a Method of Demonstrating the Tubercle Bacillus,

Is a pamphlet written by Dr. James E. Reeves, of Wheeling, West Virginia, for the Company, and is devoted to an explanation of the manner of using this essential accessory of microscopical work. The manufactures of this optical company command the confidence of all who have had dealings with them, and we feel safe in recommending the microtome which they make, and which such eminent authority as Dr. Reeves says is worthy of confidence.

Anyone interested in microscopical work will do well to look into the merits of this company's work, and a study of Dr. Reeves' little pamphlet will repay them for the small outlay necessary to procure it.

Diseases of the Spinal Cord. By Byron Bramwell.

When book follows book in rapid succession, it is agreeable to the busy practitioner to find some that have a *raison d'être*. This work is a concise statement of the present status of our knowledge of the diseases of the spinal cord.

The first chapter contains a careful explanation of the connection of the different segments of the cord, and their physiological relations. The introduction of illustrations of microscopical sections will be of great benefit to the painstaking physician who is anxious to do microscopic work and be able to see for himself how far disease can change normal appearances. We must know the normal to appreciate the pathological. In no other way, it seems to me, can an author explain so succinctly the anatomy and physiology of the cord than by the judicious use of illustrations with clear verbal statements.

The chapter on general pathology is short, but, by concise statement, much information is set forth in each page. An apt illustration imparts to the mind of the non-specialist reader more than a page of words.

In chapter third, on care-taking and clinical examination of the

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cord, the importance of system in care-taking is apparent. The motor functions attributable to each segment is in consonance with the best teaching of the present time.

But why make individual mention of each chapter? The book is well written. The author's attempt to simplify the discussion of the diseases of the cord by showing the system in which they originate with wood-cuts of microscopical sections from actual cases will be appreciated by any physician who has made sections of the cord and longed for some standard with which to compare his own work.

On the whole, it is a book which few men can afford to do without. It is a successful effort in the right direction.

PARALYSIS—CEREBRAL, BULBAR AND SPINAL. A Manual of Diagnosis. By H. CHARLTON BASTIAN, M.A., M.D., F.R.S. D. Appleton & Co., New York.

The book is devoted to the study of the diagnosis of paralysis, and its declared purpose is to aid the physician, when brought face to face with a case of central nervous trouble resulting in a paralysis, to locate the seat of the lesion and the probable extent of the trouble. It fills a space in this department of medical literature not heretofore taken up by any author with such definite limits, and its merit is equal to the author's reputation. The illustrations are numerous and of great service in the study of the subject.

A NEW TEST FOR IRON.—Prof. F. P. Venable announces in the *Bulletin* of the Mitchell Society that he, by accident, discovered a new test for iron. A solution of cobalt nitrate in strong hydrochloric acid is blue. The addition of a small amount of a ferric salt changes this blue to green. This test is distinct for three thousandths of iron. Ferrous salts do not give the reaction. This reagent is especially useful for detecting iron in strong acids.

EGGS coated with butter, in which two or three per cent. of salicylic acid has been dissolved, and then packed in dry sawdust without touching one another, will keep fresh for a year.—*American Druggist.*

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CORRESPONDENCE.

WINDSOR, N. C., March 1, 1887.

Messrs. Editors North Carolina Medical Journal:

GENTLEMEN:—We have read with great interest Dr. Thomas Hill's letter in the February number of your valuable journal, upon the treatment of hæmorrhagic malarial fever by ambrosia artemesiafolia, or, in plain English, ragweed.

From our experience with the aforementioned dangerous malady, as well as from our theoretical ideas upon the subject, and which are shared by many high authorities, we are inclined to believe that the ragweed must have played but a very small part in the restoration to health of our esteemed friend's patient. In the first place, Dr. Hill writes that he also used the two great sheet-anchors for malarial disease, and which by some are regarded as specifics; hence how does he not know that the victory over death belonged to our old friends, calomel and quinine, instead of the new candidate for our favor, ragweed? Besides, is not the treatment by styptics and astringents opposed to sound pathological principles, and does it not run counter to the views of the best authorities? Nevertheless, we are indebted to Dr. Hill, as we should be to all pioneers in every unexplored wild of our great profession, and doubly trust that he will continue his observations in this field, as you also, Messrs. Editors, suggest.

In all of our experience in the disease under consideration, and that experience has been considerable, living in one of the most malarial parts of our State, and where more or less of hæmorrhagic fever has prevailed every fall and winter since we were graduated in 1872, we have never known a single case to terminate fatally from the effects of hæmorrhage or purely from asthenia. Of course, we would not say that either of the foregoing would not contribute to a fatal result in some cases, though, as aforementioned, we know of none. On the contrary, death has invariably proceeded from a different cause—uræmic poisoning—and presumably blood-poisoning from other sources, probably, among them the retention of cholesterin and other excrementitious substances in the vital fluid, caused by the action of the malarial element, which so

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empoisons the nervous centres that healthy innervation is suspended and the various emunctory organs cease their work of depuration. Besides, the doctor's case in which he used the ragweed, could hardly be called a sample of the worst type of the disease. The latter form pursues a different march altogether. We have in this form the chill followed in a few hours by complete jaundice, and, instead of a copious discharge of hæmorrhagic urine, there is but a scant excretion, in which is more or less of blood, and which rapidly glides into all the horrors of uræmic poisoning, to which the patient rapidly succumbs.

Why, then, treat a symptom, which is the source of little or no danger to the patient? In our opinion the kidneys should be encouraged to act, even though there be a free discharge of blood along with the urine, as the patient is in no immediate danger so long as this symptom continues, i. e., so long as the urea is eliminated in such quantities as to preclude uræmic poisoning.

We always feel hopeful of our patient's recovery so long as we see continuous urinary discharges, no matter how much blood accompanies them, and feel correspondingly alarmed, when the discharge grows scanty, as such is invariably a signal of speedy dissolution, or at least of great danger.

Right here we would remark, *en passant*, that there have been numerous physicians of learning and repute, in various parts of our country, who have denied in toto the hæmorrhagic nature of this disease. Such have contended, very ingeniously, that there is no true hæmorrhage. While we have great respect for the opinions of some of these, we cannot fall into the error of becoming their proselytes. On the contrary, we have had most positive proof that the discharge is a true, *bona fide* hæmorrhage, having once in a typical case—a man aged 35 years, who had been suffering with chronic malarial poisoning for months—made a microscopic examination of the urine and found whole roulettes of red and white corpuscles clinging together. This was directly after patient had turned yellow and copious bloody evacuations from bladder had supervened. A second microscopic examination of the urine when the patient was in articulo mortis, and the excretion almost entirely suppressed, failed to detect any corpuscles, owing, we suppose, to thorough disintegration; decomposition commencing before life was extinct, if we may be bold enough to use the term in this connection. No doubt the foregoing is the reason why only negative results were obtained in the experiment, or examination

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of the physicians alluded to above. We made our examinations some years ago in conjunction with Dr. L. P. Warren, late of Edenton, North Carolina, and which to our mind proved conclusively the hæmorrhagic nature of the disease under consideration.

In our opinion the different types or shades of the disease require different medication, those cases in which there is a decided remission or intermission of the dangerous symptoms being more easily controlled by quinine in moderate doses; the enormous doses used by some practitioners being decidedly injurious.

In the graver form in which there is no intermission and scarcely any abatement of the dangerous symptoms, and in which the system is so overpowered by the malarial influence that it cannot react sufficiently, even to go through the phenomena of another paroxysm, we would use the antiperiodic sparingly, but instead *give at once, without delay,* from 50 to 100 grains of calomel, combined with one-eighth to one-fourth of a grain of elaterium, with diaphoretics, etc., to arouse the emunctory organs forthwith. A great drawback to this treatment is the intense nausea and vomiting, frequently of black vomit, showing congestion of the stomach, or rather of the whole portal circulation, and which may sometimes be favorably modified by powdered ice and the preparations of bismuth. If the calomel and elaterium be administered in time, we have never known it to fail to produce a favorable effect at once. Under no circumstances do we administer opiates, as in our first years of practice we invariably found them to do harm, our aim being to arouse the dormant functions, and not to paralyze them into that sleep that so frequently "knows no waking."

We are aware that our treatment may call forth criticism, as it will undoubtedly seem heroic to some, but as we have to cope with an enemy who will tax our mightiest efforts—

> "A dragon fell and strong,
> Whose breath is fever fire;

and as

> "No knight of fable or of song
> Encountered foe more dire,"

we must go into this conflict prepared to act heroically, if need be. We would here state that we are no advocate for hyper-medication, but this is a disease that calls for positive treatment.

We have treated many cases according to the principles enunciated

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in this letter, and never yet have seen anything other than benefit to follow such a course of treatment, when applied in time. Hence we submit these remarks to the profession, hoping that the plan of treatment will be thoroughly tested, and that if there be found good in it, it may meet its just recognition at the hands of the brethren. We almost forgot to state that we have found jaborandi an invaluable ally, also, counter-irritants in the form of large blisters over the epigastrium and kidneys.

Yours truly, E. W. PUGH, M.D.

QUININE IN 1694.

An esteemed correspondent writes us as follows, and we have taken the liberty to print it without his consent:

"I enjoyed reading the extract from John Evelyn's diary, of the item in regard to quinquina and its use in Charles I's attack of ague. But the caption, "Quinine in 1694," is calculated to mislead our younger brethren into the idea that quinine was known at that day. Such, you know, was not the fact. Quinquina was the name given to the bark brought over to Europe by the Jesuits from La Patz. This was before the discovery of the Loxa Bark, and was probably the true cinchona. At any rate, Poinet, in his history of drugs, 1694, so considers it; while the alkaloid quinine was not obtained from the bark till 1803, by Dr. Duncan, of Edinburgh, nor its complete separation effected till 1820, by Pelletier, of France. That bark, even, was not then (1694) freely resorted to, as may be seen by recalling an item of Evelyn's diary, dated February 7th, 1682, in which he refers to his own treatment in an attack of ague as follows: 'Had a severe fit of ague, when recourse was had to bathing my legs in milk up to the knees, made as hot as I could endure it, and sitting so in a deep churn or vessel covered with blankets, and drinking cardurus posset, then going to bed and sweating. I not only missed that expected fit, but had no more, only continued weak.' The reflection which the Marquis of Normandy makes on Dr. Lower's honesty in withholding the use of the bark in King Charles' case, because of rivalry of feeling toward Short, who had recommended it, is, I have no doubt, a lie, as the author of the "Tracturus de Corde" was too honorable a man to be guilty of such meanness. Besides, the reason of the refusal imputed to him, that it (the bark) 'was a remedy only fit for kings,' was absurd, as it was a king they were treating."

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BIENNIAL MEETING OF THE BOARD OF HEALTH OF SAMPSON COUNTY.

CLINTON, N. C., January 3, 1887.

The Board of Health of Sampson County met in the Court House, and was called to order at 1 P. M. by Col. John Ashford, the Chairman of the Board of County Commissioners, and Dr. J. H. Benton was elected Secretary. The proceedings of the previous meeting were read.

Moved and carried that a committee of three be appointed by the chairman to report the names of the physicians of the county who are eligible to vote in the election for a Superintendent of the County Board of Health. Drs. A. M. Lee, Henry Sloan and A. T. Cooper were appointed, and, after a short conference, made the same report—with the suggestion that the name of Dr. Isaac M. Hobbs be erased from the list—as that of a committee appointed for a like purpose at the meeting held on the 8th day of May, 1885; which report, with a *note* in regard to the Edinborough Medical College of North Carolina, by the editors of the NORTH CAROLINA MEDICAL JOURNAL (see page 254, No. 4, Vol. XVI of said Journal), was read by the Secretary, whereupon Dr. A. Holmes offered the following:

Moved that, for the purpose of determining who shall compose the Board of Health for the County of Sampson according to the laws as passed by the Legislature of North Carolina, and who are eligible to membership on this Board, there being a difference of opinion as to regular medical colleges, We ask for a vote of the members: *Do we recognize the Edinborough Medical College of North Carolina as a regular medical college, and a diploma from said institution as entitling the holder to a membership? And further, that the vote of each physician present be recorded.*"

The roll being called the following voted in the negative: Drs. A. M. Lee, A. T. Cooper, A. Holmes and J. H. Benton—4.

Physicians present and declining to vote, Drs. J. A. Stevens, Henry Sloan, F. J. Cooper, W. L. Hudson and Wright Hall.

Announcement was made that the Board of Health of Sampson County *does not* recognize the Edinborough Medical College of North Carolina, and a diploma from said institution *does not entitle* the holder to membership.

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Drs. J. A. Stevens and A. F. Cooper were placed in nomination for Superintendent of the County Board of Health.

The gentleman holding a diploma from the Edinborough Medical College of North Carolina *demanded* that his vote be allowed. The chairman decided to receive it.

Upon counting the vote Dr. Stevens was declared elected for the ensuing term.

The Board adjourned *sine die.*

J. H. BENTON, Secretary.

CURIOUS EFFECT OF IODOFORM.—Dr. Poncet, whose attention was directed to this subject by a patient, found upon investigation that silver which has been in contact with iodoform, or which has even been touched by the fingers after they have been in contact with iodoform, acquires a nauseous odor, resembling that of garlic. The odor becomes more perceptible upon rubbing the silver. A drop of saliva from a patient fully under the influence of iodoform is said to be sufficient to impart the odor, or the mere placing of the drug and silver near together. The odor is not that of iodoform, and is thought to be due to a decomposition product. A spoon after contact imparts an unpleasant taste to food eaten with it.—*Medical Abstract.*

DR. G. J. GATCHKOVSKY treats acuminated condylomata by powdering with pure resorcin. He treated thirty-four cases in this manner with great success; the duration of treatment being from three to eight days. In broad condylomata of the anus pain and the new growths themselves disappear soon after treatment is begun.—*Medical Abstract.*

DR. J. G. WESTMORELAND, a well-known surgeon of Atlanta, Georgia, died in Atlanta on March 3d, at the age of 71 years. Dr. Westmoreland was the founder of the Atlanta Medical College, and for a number of years was its dean and president of the faculty.—*Marylaad Medical Journal.*

DEMANGI says that diabetes insipidus is best treated by valerian, in doses of two to four grammes of the powder per diem.—*Medical Register.*

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CURRENT LITERATURE.

ON THE DILATATION OF URETHRAL STRICTURES, OF LARGE CALIBRE, IN THE TREATMENT OF GLEET.

By F. N. Otis, M.D., Clinical Professor of Genito-Urinary Diseases in the College of Physicians and Surgeons, New York.

Nothing is more distinctly laid down in the writings of authorities in regard to the urethral stricture than that the results of dilatation are always of a temporary character. It is therefore well understood in the cases of cure of gleet by dilatation of the stricture or strictures upon which it is dependent, that subsequent dilatation must be kept up, *indefinitely*, at varying intervals, in order that the gleet may not be reëstablished.

For a permanent cure a complete division of the stricture or strictures must be had, and any treatment which falls short of this will, of necessity, fail in doing more than to temporarily remove the obstruction which has been the cause of the gleet. It is, however, desirable that a temporizing course should be pursued in many cases, for various reasons, just as in many cases it may be found better to pay the interest on a mortgage rather than to pay it off. In some cases there will be want of time and means; in some lack of the instruments, skill and experience necessary to a radical cure of the stricture. In a very large proportion of cases the prejudice against any cutting operation will be the sole objection, and this is encouraged by the advocates of dilatation who refuse to accept the well-authenticated evidences of prompt, satisfactory and complete cure of stricture and of the gleet through complete division, and who persistently ignore the possible perils of its continuance. These also underrate the dangers of dilatation, while exaggerating the risks and discomforts of dilating urethrotomy. For such and perhaps other reasons, the treatment by gradual dilatation will be required in many cases. Directions for its proper performance are therefore appended, as follows:

For dilatation of strictures of large calibre, or those above 20 F., I prefer the solid nickel-plated sound. The essentials of a solid metal instrument, for easy passage through the urethra, are: 1st,

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that it shall have a highly-polished surface, steel or nickel-plated; 2d, that its extremity shall be so curved that, in its passage through the urethra, it shall naturally follow the course of that canal, readily conforming to what is known as the *sub pubic curve.* Urethral sounds, as usually constructed, consist of a straight portion, from six to eight inches in length; the curved portion from two and one-half to three and one-quarter inches in length on its convex surface. The length of this curve between these limits is not of importance; the one, as a rule, which is the easiest of introduction is that to which you are most accustomed. Sir H. Thompson's and Prof. Van Buren's sounds have a curve of three and one-fourth inches. My own preference is for the shorter curve; this seems to me more easy to direct, enables the operator to be more sure of the exact locality of its point than those of the longer arc, and readily adapts itself to the sub-pubic curve.

The sub-pubic curve is found in the well-formed human subject to correspond to the arc of a circle three and one-fourth inches in diameter, the chord of the arc being two inches and three-fourths, and coincides with the course of the urethra from its junction with the bladder to a point an inch and a half anterior to the bulb. The lowest point of the curve is just about opposite the anterior layer of the triangular ligament when the body is upright. In children this curve is more acute, and in old men with enlarged prostate it is more obtuse (Sir H. T.), but in the well-formed adult it is as above stated.

All solid instruments intended for passage through the deep urethra should be formed so as to correspond to the *sub-pubic curve,* and this curve should always be borne in mind when attempting to introduce such instruments.

Mode of Introduction.—Taking up the penis carefully, so as partially to include the glans between the first two fingers and thumb, and taking up the sound lightly as you would a penholder, introduce it well oiled, pretty much by its own weight, turning it slowly if any halting occurs, in this way releasing its point from any obstructive folds of mucous membrane or engagement in a false passage, or natural sulcus. The larger the instrument used the less liable to arrest from such causes. Always begin with the largest instrument which the meatus will permit. In cases of contracted

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orifice a division may be necessary before any satisfactory introduction can be effected.

As the sound is advanced gently draw up the penis on the sound to meet it, keeping the handle of the instrument well down as the abdomen is approached, thus avoiding arrest by the anterior border of the triangular ligament; then advance by slowly depressing the handle until the instrument, following the deep urethral curve, passes well into the bladder. Obstructions may, however, be met. In the anterior or movable portion of the canal, if there be no stricture, we need have no trouble in passing a large instrument. Small instruments, however (say of eight or ten m. circ.), may engage in the little follicular sulci which are not infrequently present at different points, especially in the superior wall of the urethra. Quite a large one is usually met at about one inch from the urethral orifice. This is called the *lacuna magna*. Spasmodic contraction of the anterior urethra is rare, but if the mucous membrane is in an irritable condition, it may arrest, temporarily, the progress of even a full-sized instrument. It is at the bulbo-membranous junction, from five to six inches down, that we are most likely to have an instrument arrested. First mechanically, by the anterior border of the triangular ligament. A little tilting upwards of the handle of the instrument will clear this obstruction, and then the point will bear against the anterior aspect of the membranous portion of the urethra. The circular muscular fibres which surround this are continuous with the muscular coat of the bladder, and are abundantly developed here; besides these, the compressor urethræ muscle surrounds the whole length of the membranous urethra. It is here that the spasmodic contraction of the muscular structures surrounding the canal most commonly hinders, to a greater or less degree, the advance of instruments, not seldom completely barring their passage into the bladder. Arrest of an instrument at this point *is the rule*, and undue haste or violence will but increase the difficulty. The simple weight of the instrument, allowed to bear steadily against the face of the closed walls for a few seconds, will usually cause the contraction to yield; when, slowly depressing the handle of sound, it will glide easily into the bladder. The interval between the act of introducing sound or other instrument for the gradual dilatation of stricture should never be less than two days, and, where irritation is produced by it, this

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should be allowed to subside entirely before the operation is repeated, using emollient and sedative injections in the meantime. Among the effects distinctly traceable to irritation caused by the introduction of sounds, more particularly through the deep urethra, is a peculiar fever, termed *urethral fever*.

In many cases, however, in which I explore the urethra, I do not pass the instrument *into the bladder*, for the reason that stricture is very seldom situated near the bladder. I cannot be too emphatic in warning you to keep out of your patient's bladder. Do not enter it even for exploratory purposes, unless you think it absolutely necessary to do so. First explore the anterior urethra and relieve, as far as practicable, any abnormal condition that may exist there. Keep out of the bladder, if possible. It is the disposition of the profession all over the world, when exploring a urethra or dilating a stricture, to pass the instrument on into the bladder. Now, there is absolutely no danger in passing an instrument gently down to the membranous junction, but there is always danger in passing an instrument beyond that point on into the bladder. Death has occurred in more than one instance from suppression of urine through a reflex irritation, caused by gently passing a bougie into the bladder, where disease of the kidneys and bladder was present. I have known many cases of swelled testicle that occurred simply from the passage of a sound through the deep urethra, and at least one case where the loss of a testicle was directly due to introduction of bougies for dilatation of stricture, thus setting up an orchitis which finally ended in an abscess which destroyed that organ.

Urethral Fever.—This consists of a rigor, more or less severe and prolonged, followed by a temperature sometimes up to 105°, and this is succeeded by a sweat, altogether exactly like an attack of malarial fever, and this not infrequently succeeds the passage of an instrument through an urethra, unusually irritable from any cause, the chill coming on from one or two to twenty-four hours after the instrumentation. In persons of malarial habit it is most frequent, and unless treated vigorously by quinine may recur like an ordinary quotidian.

It is important in connection with the subject of urethral fever to be aware that the same causes which induce it, or the nervous disturbance caused by the attack, may, through reflex irritation,

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produce a partial or complete *suppression of urine.* This is most likely to occur in cases complicated by organic disease of the kidneys. Harrison, of Liverpool, has called especial attention to the danger of its occurrence in elderly men who habitually pass large quantities of pale urine. Such an accident calls for prompt revulsive treatment by dry cupping over the loins; turpentine and hot-water stupes, and the galvano-faradic current is also claimed to be of service in restoring the excretory function of the kidneys. In my own experience, a large dose of calomel, twenty to thirty grains, has on several occasions acted promptly in producing this result.

In view of the possibilities of urethral fever and the other troubles which have been alluded to as occasioned by the passage of instruments through the deep urethra, more especially in elderly people, or those in which the urethra is especially sensitive, it is wise to administer quinine, five to ten grains, in such cases, by the mouth or in suppositories, at least one hour or two previous to the attempted introduction of the instrument, for in this way, and with suitable rest (preferably in bed) from twelve to twenty-four hours afterwards, the danger of such troublesome consequences may be reduced to the minimum.—*Journal of Cutaneous and Genito-Urinary Diseases.*

RESECTION OF THE GUT.

Mr. C., 59 years old, has had a reducible hernia for fourteen months, wore no truss, but on Tuesday, after jumping, was unable to restore it to his abdomen; his physician failed also, and, after waiting until Friday night, consulted Dr. Miltenberger, who kindly suggested calling me in. I saw the case Saturday morning, and saw the patient showing the influence of opium he had taken, vomiting yellow offensive fecal matter, limbs drawn up, belly tympanitic, pulse and respiration rapid, a cold sweat on forehead, in fact collapsed. Seeking the cause of the trouble, I found a potatoe-like tumor, irregular and somewhat nodular, over which a dusky lurid skin was tensely stretched, with its long axis transverse to the body and lying over Poupart's ligament on the right side.

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The tumor was tender to the touch and tympanitic, and the diagnosis admitted of no doubt, a strangulated indirect hernia lying in the inguinal canal, and not so far down as the external ring which could be felt free by invaginating the scrotum.

Having shaved and washed with all antiseptic precaution but the spray, using the bichlor. hyd. solution, with the assistance of Drs. Gavin and Claude Van Bibber, I cut down on the axis of tumor, using a grooved director after penetrating the skin. No vessels of any moment spouted, and soon the sac, looking like a ripe purple plum, dark effusion and in some places ashy, showed itself in the wound. Carefully separating adhesions, I nicked the internal ring without effect at reduction. The only place left for constriction was the neck of the sac, when, on opening the sac, it was found, as well as gut and omentum, both spacelated, and from cribriform puncta in the intestines the slightest pressure forced out liquid feces. There were no adhesions in the sac and but little fluid. The only thing to do was to exsect as much of the gut as looked unable to be replaced. Healthy gut at either end of gangrenous portion was stitched to the side of the wound and to each other, the mesentery intervening was ligated and all the necrosed tissue excised. A gush of fecal matter showed the improbability of a twist high up. The omentum and sac, after ligation with catgut, were removed. The stump dusted with iodoform after washing, and iodoform gauze dressing applied over drainage-tube, all covered in by a spica, finished the operation.

Hot bottles, injection of brandy, and digitalis did not rally him, and he died in a few hours, never recovering from the shock of his lesion.

To show how desperate I considered the case when I first saw it, I stated the facts and the probabilities and only operated at their solicitation. The Priest administered extreme unction before I began, and I operated more to let the family console themselves that all had been done, than from any hope I entertained of success.

I believe in operating in strangulated hernia as I would in tracheotomy, for sometimes it resurrects.

I did not attempt a reunion of gut, as I did not care to have the man exposed to a longer operation than was necessary, nor did I care to have him die under my hand.

A suggestion, though homely, occurred to me then: One has

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great trouble in bringing the ends of the gut in apposition, and we do not always have cones of cocoa-butter or gelatine at hand to act as lasts to draw the gut over.

A piece of link-sausage out of which the meat has been turned and filled with butter or lard, makes a good cone or basis to draw the ends of the gut over prior to uniting them. Just before the last stitch is drawn up a tenotome can cut the sausage sack and the gradual warmth of the body will melt the butter, allowing it to empty itself into the bowel at the seat of suture, thus filling up any little openings made by the needle. The sausage sac may pass out with the feces.

Water or air will not do to fill the sac with since a puncture of the needle would let out its contents before one is through with them. One other point before leaving this case, and that is the immense importance of early operation in strangulated hernia.

Were I to gauge the value of time I would say, hours are worth years in inguinal hernia; moments are worth months in femoral.

I believe there are more deaths due to the complacent let-alone policy engendered by a few recorded cases of unsomatic recovery when the patient was on the table for operation, than can be laid to the door of any surgeon who operates early. Divest your mind of prejudice born in a suppurative age, and, instead of being appalled at death rate due to late interference, fully appreciate the triumphs of other departments of peritoneal surgery and apply them to herniotomy.—*Dr. Robert W. Johnson before the Clinical Society of Maryland, January* 7, 1887.

Chloroform has been found very efficient against tape-worms. Doses of 2 grams have been given, repeated after twenty or thirty minutes, but troublesome cardiac symptoms may be avoided by giving much smaller doses (a few drops) every few minutes for a few times. Dr. Thompson successfully prescribed chloroform ʒ j (by weight), simple syrup to ℥ j, to be given in three doses, at intervals of two hours, in the morning, with castor oil to follow.—*London Medical Record.*

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NOTES.

A FOURTEEN-YEAR-OLD scholar in the district school near Vandalia, Ill., took a swallow from his ink-bottle the other day to see how it would taste. The next morning he died. His physician said that the ink contained a deadly poison.—*Medical and Surgical Reporter.*

TRUFFLES (Terfezia Conis, Tul.) have at last been found in the United States (*Botanical Gazette*), in Louisiana, and have been identified by Mr. J. B. Ellis, of Newfield, N. J., the eminent mycologist. It is reported as quite common at Natchitoches, and is eaten by the residents.

THE LEGALITY OF PROXY VOTES IN THE ELECTION OF SUPERINTENDENTS OF HEALTH.—In reply to an inquiry on the above subject, the Attorney General says: "I think the general rule is, that one cannot vote by proxy unless the Act creating the organization in which the vote is authorized clearly provides for such vote: and I do not find any such power conferred in the statute creating County Boards of Health."

A USEFUL ARTIFICIAL LIGHT (*Botanical Gazette*) is thus constructed: A glass globe about six inches in diameter is filled with a very dilute solution of ammoniated copper oxide, and suspended between a large Argand burner (gas or oil) and the microscope. The light should be about twenty inches from the microscope, and the globe sufficiently supported so as not to oscillate. The light is soft, green and pleasant to the eyes.

E. V. ZOELLER, the member of the committee on the material formulary of the American Pharmaceutical Association, representing the North Carolina Pharmaceutical Association, has issued a circular explaining briefly the object of the committee's work: "The duties of the committee are to collect, unify and adopt the best formulæ for the numerous semi-officinal preparations in use throughout the Union." The formulary will include all preparations which legitimately belong to pharmacy, excluding only trivial or purely technical ones, and will not imitate or include proprietary remedies.

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BOOKS AND PAMPHLETS RECEIVED.

Report of the State Librarian, Session 1887.

Report of the Board of Regents of the University of Texas.

Ethyl Bromide in Ophthalmic Surgery. By S. Latimer Phillips, M.D.

Report of the Board of Agriculture of North Carolina for the Year 1886.

Rhinology in the Past and of the Future. Carl H. Von Klein, A.M., M.D.

"Report from the Department of Immigration" of the State of North Carolina.

Backward Dislocation of the Fingers upon the Metacarpus. By E. O. Otis, M.D.

Papers on Hypertrophy of the Prostate Muscle. By Reginald Harrison, F.R.C.S.

A Chapter in North Carolina History. From the *News and Observer* of December 31, 1886.

A Picture of the State. South Carolina in Every Field of Labor in 1887. The *News and Courier.*

The Relation of Our Public Schools to the Disorders of the Nervous System. By C. F. Folsom, M.D.

President's Address. Tenth Annual Meeting of the Detroit Medical and Library Association. By J. C. Lundy, A.M., M.D.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the United States for the Fiscal Year 1886.

Treatment of Fissures and Ulcers of the Rectum and Anus with the Aid of an Improved Rectal Speculum. W. S. Watson, M.D.

Reports of President Kemp P. Battle and of the Committee of Visitation of the University of North Carolina January 20th, 1887.

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The Source of the Mississippi. Ivison, Blakeman, Taylor & Co.

Report on Diseases of the Rectum. By Joseph M. Mathews, M.D.

Sterility. Management of the Secundines. Wm. H. Wathen, M.D.

Memorial Address on the Life and Services of General Bryan Grimes. By H. A. London.

Reports of the President and Secretary of the Board of Health of the City of Wilmington, Del., 1886.

Report of the Surgeon-General of the Army to the Secretary of War for the Fiscal Year ending June 30, 1886.

Researches into the Etiology of Dengue. By J. W. McLaughlin, M.D. Reprint from the Journal of the American Medical Association.

War of the Rebellion. Official Records of the Union and Confederate Armies. Series 1. Vol. XVII, Part II. Correspondence, etc., etc.

A Novel Procedure for the Removal of Subglottic Laryngeal Growths, with the Report of an Illustrative Case. By William Chapman Jarvis, M.D.

The Physician's Pocket Day Book. Designed by C. Henri Leonard, M.A., M.D. Price $1.00. The Illustrated Medical Journal Company, Detroit, Michigan.

Granular Lids and Contagious Ophthalmia. By W. F. Mittendorf, M.D. The Physician's Leisure Library. George S. Davis, Detroit, Michigan. Price 25 cents.

Superintendent's Report of the Eastern North Carolina Insane Asylum, also the Reports of the Chairman of the Directors and of the Treasurer (ex-officio) for the Year of 1886.

On the Determination of the Necessity for Wearing Glasses. By D. B. St. John Rossa, M.D. The Physician's Leisure Library. George S. Davis, Detroit, Michigan. Price 25 cents.

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OBITUARY.

James A. MacRae, M.D.

On Wednesday last, at 10 A. M., Dr. James A. MacRae was released from the burden of life and passed, we believe, to a peaceful rest.

For months he had gradually lost his natural vigor, and was unable to attend to his professional duties, and for sometime he had been confined to his room.

The greater portion of his life had been passed in the unobtrusive discharge of the duties of his profession, and he was well known throughout the State, but especially to the people of his native town, as a conscientious and able physician.

He graduated at the University of the City of New York (then known as the Mott School), in 1845, and began the pursuit of his calling in Fayetteville the same year.

He was surgeon of the First Regiment of North Carolina Volunteers (Col. Paine) during the Mexican war, and at its close he resumed practice in Fayetteville.

At the breaking out of hostilities between the States he became surgeon of the Fifth Regiment of North Carolina Troops (known as the bloody Fifth), and served for two years and again returned to Fayetteville and remained until 1886, when he moved to Baltimore and practiced medicine. Here he was offered high position, but he loved the quiet of country life, and again returned to his old home and remained until his death.

At one time he was Mayor of the town, and also held for several years the position of county physician.

In his younger days the writer occupied an office in the same building with him, and there first learned to appreciate his worth, and received many kind suggestions from him, which are often so valuable to young men. He had at that time a large practice among the poor, and was always kind, attentive and forbearing in a remarkable degree to that class from whom he could never hope for remuneration and very seldom for thanks. A man of great benevolence and gentleness of character, he died at the ripe age of 70, loved and respected by all. T. D. H.

Fayetteville, March 14, 1887.

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NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

Number 4. Wilmington, April, 1887. Vol. 19.

ORIGINAL COMMUNICATIONS.

COCAINE DOSAGE AND COCAINE ADDICTION.

By J. B. MATTISON, M.D., Brooklyn, N. Y. Read before the Kings County Medical Society February 15, 1887.

The sad story, in a recent *Record*, of the Russian surgeon's suicide from sorrow or remorse due to his belief that a patient had died from an overdose of cocaine, points a moral, the import of which demands more than a passing notice.

No advent in the therapeutic arena during the last decade, has been attended with such varied and extensive claims for favor as cocaine. Its marvellous effect in ophthalmic surgery roused a spirit of experimental research in other directions which has added largely to its well-proven power for good; but, as has been well observed, a potency for harm, and the risk impends of its ardent advocates being carried by over-enthusiasm, beyond the limit of a safe regard for the welfare of their patients or themselves, that may imperil an otherwise well-founded success.

Surely it is, in the writer's opinion, full time to draw the line; to

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re-voice a warning as to the use and abuse of this valued, but, at times, toxic drug, lest the roll of alarming, dangerous and fatal effects from its ignorant or incautious using be sadly extended, and a reaction ensue that, by creating distrust within and without the profession, will damage its good repute, and hinder its use in cases where it would be almost certain of serving us well. And the need of this seems all the more called for in view of opinions expressed, the past year, in certain quarters, affirming the harmless character of cocaine—opinions which, I am convinced, are at variance with well accredited facts, and should not be allowed to pass uncontradicted.

Cocaine seems to have secured for itself a more than usual share of attention aside from the professional press. One metropolitan daily, in particular, has, again and again, given its columns to a discussion of the topic, and in a somewhat lengthy article not long ago, an "eminent but unnamed specialist"—Dr. Francke H. Bosworth—was reported as saying "there is not a well-authenticated case on record, as yet, where cocaine has effected injury."

In view of cases cited in this paper, and others elsewhere recorded, such a statement is no longer tenable, and any conclusion based thereon as to the harmless nature of cocaine is misleading and incorrect.

And the evidence herewith presented weighs even more heavily against an assertion by Dr. Wm. A. Hammond, at a recent meeting of the New York Neurological Society, in the course of his "Remarks on Cocaine and the so-called Cocaine Habit," when, after telling his taking of eighteen grains at a subcutaneous dose, he asserted "he did not believe any dose that could be taken was dangerous!" What might be the outcome of such an opinion put in practice? The Russian surgeon's error of judgment, fatal to his patient and himself, was largely due to his reliance on the asserted use by other surgeons of large doses without ill-effect. Might not a like result follow an incautious dependence on Dr. Hammond's disbelief in the toxic power of cocaine? The *Record* well said of Prof. Kolomnin's case: "The experience, though so bad, may not be without its lesson," and put a very pertinent query as to whether "there are not other surgeons who could report very serious, if not fatal, results from injudiciously or ignorantly using too large a dose of cocaine?"

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Fifty cases herewith noted attest a power in this drug on some patients that warrants caution with all.

"A young woman, aged twenty-three, was sent to Prof. Kolomnin, and found to have a large ulcer of the rectum, which was diagnosticated to be of tuberculous nature. He decided to scrape and cauterize the lesion and to use cocaine anæsthesia during the operation.

"In order to produce anæsthesia, he had fifty grammes of a five per cent. solution of hydrochlorate of cocaine prepared: of this thirty grammes were brought into use, containing exactly twenty-four Russian grains of the salt, or twenty-three English grains—the Russian grain is exactly one-sixteenth of a gramme—six grains being injected at a time into the rectum. After the third of these injections, it was found on examination that the part was still sensitive. A speculum was then introduced, the ulcer dabbed with a dry sponge, and then the fourth injection given, making twenty-four grains in all. After this the parts were tolerably anæsthetic. The ulcer was scraped and a tampon saturated with oil inserted. The pulse was then accelerated. During the operation the patient groaned, so that even the twenty-four grains had not produced complete anæsthesia.

"After the operation Kolomnin went round his ward, and in three-quarters of an hour a message was sent to him that the patient was very low. He found the pulse very weak, the face and hands cyanotic, and the respiration labored. He considered that she was in a toxic state, and used every means to bring her round, Prof. Sushchinski being also invited to a consultation. Faradization, artificial respiration, hypodermatic injection of ether, administration of ammonia, tracheotomy for the inhalation of oxygen, stimulating and nutrient enemata—all were tried, but without success. Kolomnin had no doubt that death was due to cocaine."

Dr. W. H. Long, U. S. Marine Hospital Service, reports in the *American Lancet*, the case of a man aged thirty-three, to whose larynx he applied, three times, a four per cent. solution of cocaine. Prompt relief was given, but three and one-half hours later the patient was found unconscious; breathing labored; respirations twenty; pulse ninety; general condition one of profound anæsthesia. Diagnosis, cocaine poisoning. Several doses of whiskey were given subcutaneously. In half an hour consciousness partially

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restored, then gradual and full improvement save a feeling of great exhaustion.

Four days later cocaine was again used. Thinking the former toxic effect due to swallowing some of the solution, and probable absorption by larynx, extra precaution was taken to have it expelled and the pharynx well rinsed. Two applications of a two per cent. solution were made. Relief was again complete, but three and one-half hours after patient was in the same condition as before, except the anæsthesia not so profound. Frequent injections of whiskey were again used with partial success—could swallow and answer questions—but, soon after, he suddenly ceased to breathe. The heart beat a short time longer. All efforts at resuscitation failed. The probable immediate cause of death was paralysis of the respiratory centre due to cocaine.

Dr. F. M. Thomas, Leonardsville, Kansas, reported to Prof. R. Ogden Doremus, as follows:

"Friday morning, October 23d, 1885, I was called to see Mrs. ——, aged thirty-nine, whom the messenger reported as dying. I found her unconscious; breathing heavily and irregularly; pulse thirty-five, intermittent; temperature normal; left pupil largely dilated, right natural; right arm and lower limbs motionless; face spasmodically drawn upwards toward the dilated eye.

"Spasmodic action of the left arm and upper part of the body came on regularly at intervals of a few minutes, during which she clutched the bed-clothing, and seemed to be trying to vomit. Twice during my attendance she ejected small portions of the previous evening's meal. Salivation was excessive; retained a dorsal decubitus; would not lie on either side. Heart seemed almost exhausted.

"I saw her at 5 A. M., and was with her nearly all the time till she expired, apparently completely exhausted, about 8 : 30 A. M."

On inquiry, the Doctor learned that Mrs. —— had been freely using a four per cent. solution of cocaine for toothache due to several much decayed left upper molars. His diagnosis was cocaine poisoning.

Dr. Knabe, of Berlin, records the case of a girl aged eleven, who was given four to twelve drops—the exact amount was not determined—of a four per cent. solution of cocaine, by injection over the deltoid, to remedy frequent fainting fits—she having cardiac degeneration, sequeling scarlatina. In less than forty seconds the

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girl took a deep breath, became deadly pale and dropped unconscious. One minute later she was dead.

In the Australasian *Medical Gazette*, August, 1886, Dr. W. E. Ramsden Wood reports this case:

"A. B. suffered from neuralgia due to a defective tooth. Extraction being impracticable, cocaine—amount not stated—of a ten per cent. solution was injected, with prompt relief, lasting some hours. Next day the pain, being very severe, patient sent to his chemist for a similar solution, and three minims were injected, but without the desired effect; he returned it to the chemist and asked him to make it stronger, which he did, making it twenty per cent. He brought this to me, but omitted to tell me that the solution was double the strength of that which I had used. He told me that three minims had not given him the relief that he had experienced from mine; I therefore gave him four minims of what I believed to be a ten per cent. solution, and within five minutes he became restless and inclined to vomit; he then began to feel a sensation of pins and needles in the left hand and arm, which rapidly extended to the right side. This was speedily followed by contraction and rigidity of the fingers, arms and legs; there was also a tendency to opisthotonos. His pulse became extremely rapid and feeble, his face livid and the muscles of his mouth and cheeks strongly contracted. His respirations were short and convulsive, his feet and hands very shortly became cold, and a profuse perspiration broke out on his head and face.

I first gave him half a tumbler of brandy, followed at short intervals by drachm doses of spiritus ammon. aromatic, and applied strong mustard over cardiac region, and used friction to the upper and lower extremities; at the same time I let him inhale a few drops of chloroform to try and check the spasmodic contractions. After continuing these remedies for nearly an hour the pulse began to improve, the color to return to the face and the rigidity of the muscles lessened, but returned immediately I stopped the friction. At the end of two hours he improved more rapidly, but felt somewhat drowsy, and it was not until about four or five hours that all the symptoms had subsided.

On questioning him afterward regarding his sensations, he told me that although he was unable to speak coherently, he knew all that was passing, and it was not until he felt the abdominal muscles

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becoming rigid that he felt anxious, for then he thought he was dying, and a sensation of suffocation came over him."

Dr. T. H. Burchard, in the *Medical Record*, December 5th, 1885, reports a case in which he injected ten drops of a four per cent. solution to induce local anæsthesia before removing a needle from the foot. "In about four minutes my patient suddenly clutched his throat, exclaiming, 'I am dying!' and fell from his bed unconscious. Respiration ceased, his jaw dropped, his eyes rolled upward, and to all appearance he was dead. His heart was beating very faintly, although his radial pulse was imperceptible." Artificial respiration, hypodermics of ammonia and atropia, alcohol, sinapism over heart and hot bottles were employed, and in "fifteen minutes after the catastrophe his pulse was about forty-eight, very feeble, and respirations seven to eight. Unconsciousness continued twenty minutes." Patient recovered.

Dr. Spear, U. S. N., in the *Medical Record*, reports the case of a man aged twenty-nine, who took, subcutaneously, within seventeen hours, to remove the effect of a rum debauch, nearly ten grains of cocaine, Squibb's make. He was found in a toxic state; unconscious; face congested and whitish grey; hands and lips blue; pulse feeble, fluttering and uncountable; respirations slow and almost imperceptible; face and neck streaming with sweat and body bathed in cold perspiration. Under treatment, in about ninety minutes he began to be conscious and gradually recovered.

C. S. Kilham, L. R. C. P., Sheffield, England, read before the Sheffield Medico-Chirurgical Society, November 25th, 1886, this case: On November 9th, 1886, at twelve noon, John B—— accidentally took four and four-fifth grains of cocaine hydrochlorate in the form of solution. At 12 : 30 he was seized with severe cramps in the stomach, nausea, throbbing and feeling of bursting in his head, failure of eyesight, loss of use of his legs, incoherence of speech and confusion of ideas, and drowsiness, but could always answer questions when aroused. No delirium; appeared as if drunk and got quite helpless. Brandy was given to him, and he vomited after it, but only the remains of food. About 12 : 50 he commenced sweating most profusely, shirt, etc., being soaked through, perspiration streaming down his face and body, and his head steaming. Pupils were normal and equal. No loss of taste. The sweating lasted sometime, and was succeeded by very severe prostra-

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tion, shivering and feeling of impending death. At intervals the patient had severe cramps in the stomach with retching and vomiting of a quantity of clear mucus, which relieved the pain. About 1:15 P. M. the pulse became intermittent—missing every fifth beat. This was accompanied by cyanosis of the face and intense feeling of suffocation over the cardiac region. Relief was afforded by sinapisms. About 1:45 P. M. he began to have cramps in the legs and feet—especially on dorsal surface of right foot—and tingling and numbness in both hands. Later on the pupils became dilated. The vomiting and cramps ceased about 4 P. M.—unless food were taken—but the drowsiness, throbbing of head and prostration continued up to 6 P. M., when the patient began to get warm and feel relieved. The improvement continued, and he could be moved at 8:30 P. M. There was great weakness, with swimming of head all night.

Next day there was still weakness, continual vomiting, a dry, leathery feeling in the mouth, with loss of taste, partial loss of power in the legs, and tingling and numbness of the fingers, especially of the right hand. These symptoms commenced nearly thirty-six hours after taking the cocaine, and most of them disappeared in twenty-four hours. The loss of power in the legs lasted three days, and the tingling and numbness of fingers longer. He was not able to write a letter until the sixth day, as he could not feel the pen between his fingers before.

An emetic was first given, with sinapisms over the heart and stomach; afterwards warmth and stimulants—principally compound spirit of ammonia.

The patient was in the habit of taking one-fourth grain of cocaine for neuralgia of the stomach. The most remarkable symptoms were the severe sweating, the intense prostration and the intermittent pulse.

Dr. George Elder, Nottingham, Eng., in the *Lancet*, October 30, 1886, says: "Preliminary to opening a superficial abscess, twelve minims of a freshly-prepared ten per cent. solution were injected under the skin; three or four minutes after syncope intervened, followed by twitchings of the face, falling of the jaw, coldness of the body, clammy perspiration, lividity of the face—in fact, all the appearances of imminent death. The patient was several minutes in recovering consciousness, and during the remainder of the day

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felt very prostrate." Dr. E. adds: "Several similar occurrences have been noted, showing that cocaine is not so innocuous as has been generally supposed."

James Leslie Callaghan, in the London *Lancet*, June 12, 1886, reports as follows: "A patient of mine who was suffering from toothache resulting from a hollow tooth, applied some of a four per cent. solution of hydrochlorate of cocaine to the tooth and gums. He did not spit it out, but, according to his story, swallowed from twenty to thirty drops. Within half an hour he was seized with a feeling of faintness and giddiness, then an attack of palpitation of the heart came on, and he complained of tingling and numbness, dryness of the throat and a sensation of heat and flushings moving over the body, but especially on the spine. Suddenly a rash, like scarlatina, made its appearance over the body; vision was somewhat dimmed. I immediately gave him a strong dose of mustard and warm water, which did not cause emesis. I then administered twenty grains of sulphate of zinc, but without effect; it was only by repeating the dose that vomiting took place. The patient was relieved for a few minutes and seemed brighter, but the symptoms soon returned, and he felt so weak that he thought he was dying. I held some strong ammonia to his nostrils, but he said he could not smell it. I kept walking him about, but his legs tottered so much I had to support him. He constantly felt a desire to have the use of his bowels and bladder. The pulse became fast, weak and intermittent; the mind remained clear."

Dr. Frederick S. Williams, of Puyallup, Washington Territory, reports in the *Medical Record*, September 25, 1886, this case: A lady on whom he wished to operate for a lacerated cervix, had a pledget of cotton saturated with a twenty per cent. solution of cocaine placed over the cervix, and four minims of the same solution injected on each side of the wound. "In about a minute and a half the patient began to speak as with an effort, saying: 'I feel so faint,' and gasped as if struggling for breath. She was immediately placed on her back, with head lowered, and told to breathe deeply. She obeyed for a few times, then recommenced her gasping, which she continued for about a minute. Then followed shallow breathing for four or five minutes, when she began to rally a little, and the breathing became gradually stronger but irregular.

"Her pulse at first was very rapid, irregular and weak, then became

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during most of the time of the shallow breathing almost imperceptible, gradually returning with the approaching normal respiration.

"Consciousness at once was dulled, and during the period of the shallow respirations was completely lost.

"At the end of about ten minutes she rallied, pulse, respiration and consciousness becoming normal."

Myerhausen relates the case of "a girl, twelve years old, in whom two drops of a two per cent. solution were instilled in the conjunctiva four times, at intervals of five to eight minutes. In all, only a little over one-tenth of a grain was administered, of which, certainly, one-half must have been lost through the tears. Immediately after the operation the child commenced to complain of headache, which became more and more severe until it was almost unbearable. Nausea and vomiting persisted through the entire day. The patient was greatly prostrated; stumbled in walking; speech was almost entirely destroyed, as though the tongue were paralyzed. These symptoms of poisoning lasted all through the night, in which no rest was possible, and gradually disappeared towards the evening of the following day."

Dr. Robert Newman, of New York City, kindly sent me this report: Patient, a female, aged thirty-seven, was treated for chronic cystitis by washing out and dilating the bladder daily. To allay the pain, fifteen minims of a four per cent. solution of cocaine were injected per urethra. This, increasing the drug a little each day, was used three times. After the third injection, while the cystic pain was allayed, a severe headache ensued, which persisted for several hours. On the fourth day, having increased the cocaine to twenty-five minims, "while still washing out the bladder with *hot* water, a piercing pain in left temple occurred, running round the back of the head in a circle, and feeling as if the top of the head would split open. Pupils dilated; expression anxious; restlessness marked. More than a week passed before all toxic traces ended. There can be no doubt cocaine caused the trouble, and the symptoms were alarming."

In the London *Lancet*, 1886, is recorded the case of a female, aged twenty-five, who had a watery solution containing fifteen centigrammes of hydrochlorate of cocaine injected into the nose. In twenty minutes giddiness, weakness and impaired vision ensued. A little later she was semi-comatose, with slight dyspnœa and pulse

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uncountable. These symptoms disappeared in three hours under friction and internal stimulation.

Dr. Schilling, in the *Pharmaceutical Journal*, records a case in which the injection of six drops of a two per cent. solution into the gums of a woman, aged twenty-six, to prevent pain of extracting a molar, was followed by toxic symptoms, of which facial rigidity, deafness, blindness, complete loss of motion and sensation, and unconsciousness for a half-hour were the chief. They subsided after inhaling nitrite of amyl.

Dr. Heyman reports a case in which the effects following the use of cocaine closely resemble that noted by Myerhäusen. The patient, a boy, had a solution of cocaine liberally applied to his pharynx and larynx. Toxic symptoms soon set in. He was apethetic with speech and walking disturbed. Pulse and respiration increased. Temperature rose to 100¾. Five hours after patient could not walk. Symptoms persisted ten hours.

Dr. Schwarzbach, Australasian *Medical Gazette*, January, 1886, reports the case of a lady who used cocaine, locally, for pain in the eye. She suddenly became very ill; stupor, pallor, slow pulse and cold perspiration. Under wine and strong coffee recovered in a few hours.

G. Bockl observed alarming effects follow an injection of six drops of a two per cent. solution into the gums. In ten minutes patient became unconscious, with gaze fixed, vision defective and delirium. Nitrite of amyl gave relief.

Dr. Landesburg, of New York City, used two grains subcutaneously, as an experiment, on himself. In less than two minutes he felt his heart beating violently and blood rushing to his head, quickly followed by fullness and roaring in the latter, and noises in the ears. Thought was confused, volition impaired. Great restlessness, and numbness with twitchings were felt in toes and fingers. Nausea and epigastric pressure marked. Face very pale and covered with cold sweat. Pulse feeble, eyes sunken, pupils dilated, vision dim. In thirty minutes took to bed with nausea, headache and general prostration. Recovery followed a night's sound sleep.

Drs. Bardet and Meyer, assistants of Dujardin-Beaumetz, anæsthetizing, for experiment, their own skin, observed, half an hour after the injections, dilated pupils and comatose symptoms. One of them fell in a state of vertigo, with pallid face and extreme heart

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weakness. These toxic symptoms followed hypodermic doses, never exceeding one-third of a grain.

Dr. Ziem, of Dantzic, in 1885, reported a case in which a solution applied to the eye caused pallor and embarrassed breathing, and said that, up to that time, seventeen cases had been cited in ophthalmological literature, in which toxic effects followed the use of cocaine. In three by injection; fourteen applied to the eye. Pallor, giddiness, dyspnœa, malaise, apathy, great prostration, tottering gait, difficulty of speech, mental confusion and extraordinary restlessness were symptoms noted in both strong and feeble men and women.

Dr. G. W. Kennicott, in the Chicago *Medical Journal*, October 20, 1885, reports: A young woman, aged twenty-five, of good constitution, had been using, per medical advice, a two per cent. solution of cocaine for hay fever. The supply becoming exhausted, she procured two 5-grain vials of the muriate, full strength, and applied two-thirds of the contents of one bottle to both nostrils with a small glass insufflator. In twenty minutes she became dizzy, vision dark, and a sinking sensation occurred, with great weakness, In half an hour she was semi-comatose, pulse scarcely countable, so rapid and weak; pupils widely dilated; speech and swallowing difficult; dyspnœa; nausea; throat dry; teeth chattered, and she shivered with cold. Later, drowsy; eyes closed; face-muscles affected; weakness extreme—she could not support her head. She recovered in three hours under brandy, ammonia, digitalis, heat to epigastrium, and heat and friction to extremities.

Dr. George J. Engelman, in the *Medical Review*, June 13, 1885, records these cases: Mrs. C., aged twenty-eight, in fair health, at 5 P. M., took one-sixth of a grain by the mouth; one hour later this dose was repeated, and soon after she felt a tingling in her fingers, hands and wrists, with discomfort and oppression about the chest, and vomiting the moment she turned in bed. At 7:30 she took a third dose, same amount, and in fifteen minutes was excessively restless, great difficulty of breathing, tight, band-like feeling about chest, faint, and felt as if dying. At 8 o'clock still faint, was dyspnœaic, and tingling had extended to feet and legs. At 8:15 tingling gave way to numbness, beginning in hands and extending to feet; "became perfectly still, as if breathing her last;" quite numb and stiff; thumbs adducted; pulse feeble, frequent, irregular

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and intermittent. These toxic symptoms subside after one-sixth of a grain of morphia, hypodermically.

Mrs. F., aged thirty-five, enciente, took forty drops of a four per cent. solution to relieve nausea. Immediately she felt a complete numbness along the tongue and throat; to test the feeling, she bit her tongue and found it perfectly numb. She became weak, perfectly relaxed, with oppression about the heart, and felt as if dying. In twenty minutes the entire body became cold and numb. Pulse feeble and very rapid. Heart felt as if constricted by an iron band and "hammered loudly at a fearful rate." Symptoms persisted several hours.

Dr. Litten, at a meeting of the Berlin Medical Society, November 4, 1885, in a debate on the action of this drug, cautions against its too general use. He said that among other ill effects known to occur after an injection are attacks of mania, sometimes very violent, which may prove dangerous; and he asserted the various toxic effects, in some individuals, reach such a high degree that actual danger to life seems to threaten the patient. The three cases next cited are of interest in this regard.

Dr. George T. Stevens, *Medical Record*, January 17, 1885, reports that he injected four minims of three and one-half per cent. solution under the conjunctiva of a strong man. In eighteen minutes "violent convulsions set in, attended with desperate struggles to breathe. The face became livid, consciousness was lost, and the patient became uncontrollable. After struggling in an easy chair for sometime, he arose in a state of frenzy and struck violently about. Stimulants were administered, and the most alarming stage of the paroxysm ceased after a duration of nearly twenty minutes. Fully half an hour, however, passed before we could regard our patient as beyond danger. I believe that this paroxysm was the manifestation of the toxic influence of the drug."

Dr. Robert Newman, of New York, has reported to me the case of a gentleman, aged forty, in whose urethra a physician injected one drachm of a cocaine solution—strength not stated—prior to cutting the meatus. In half a minute, patient's face flushed, he felt a general pricking sensation, followed by a piercing sting in his temple, violent headache and great excitement. Then he became maniacal, and, under the delusion that he had been attacked by a robber, sprang from his seat, seized the doctor by the throat and

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began to beat him. The delirious excitement persisted three hours.

A well-known physician of this city gave me his experience with cocaine. Suffering from an attack of otitis media, he used freely, by advice of his medical attendant, a ten per cent solution in the ear. It caused flushed face, quickened pulse and breathing—the former 130—wild look, fixed gaze, hallucinations and delusions—the latter homicidal—attempting assault on a near relative—which persisted three hours, followed by decided depression.

Dr. J. P. Knoche, in the Kansas City *Medical Record*, December, 1885, reports the case of a man, aged twenty-three, to whom he gave cocaine, hypodermically, for anæsthesia, using, in several injections, within thirty-five minutes, about two and two-fifth grains. In seven minutes patient was cold, and sensation lost in hands, forearms, chest and legs. In twenty minutes breathing was difficult, interrupted, sighing. Pulse almost imperceptible, intermittent and very rapid; lips and skin generally pale and cold. Patient was semi-comatose for a time. Numbness in extremities lasted four hours; imperfect palmar sensation ten hours. Nine hours after severe renal pain and copious diuresis; the tremor and weakness continued twenty-four hours. Symptoms gradually decreased under free alcoholic stimulation.

Dr. H. J. Boldt, New York City, reports four cases of toxic symptoms from cocaine injections. He injected fifteen drops of a four per cent. solution to relieve an attack of supra-orbital neuralgia. Immediately patient's face became red, dizziness, dyspnœa, pulse frequent and feeble and feeling of oppression about heart. In three minutes patient fell unconscious and breathing ceased, so that, for fifteen minutes, artificial respiration was required. Then respiration returned, but only five or six per minute, deep and sighing. Heart sounds and pulse very weak and frequent; pupils widely dilated; gaze fixed. Shortly before and directly after return of consciousness, convulsive twitchings of upper extremities. Ten minutes later speech was confused and incoherent. In an hour patient was able to walk, but gait was groggy. Neuralgic pain did not return for three days. At the patient's request ten drops of the same solution were again injected and like symptoms resulted, but were not so prolonged. Five or six drops of this solution in this patient caused flushing, dizziness and dyspnœa, with constricted feeling about chest continuing half an hour.

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II. Female, aged thirty-three. Eight drops of a four per cent. solution were injected for local anæsthesia prior to operation for lacerated cervix. It caused flushing, followed by dizziness, dyspnœa, nausea, deathly pallor and cold sweat. Pulse frequent and feeble; pupils dilated. Symptoms subsided in half an hour, leaving patient so weak that operation was deferred.

III. Female, aged thirty-three. Neuralgic headache. Eight drops of four per cent. solution were injected over greatest pain, causing dizziness, dyspnœa, quick, weak pulse, distress in chest, especially about heart, deathly pallor, nausea and sweating, persisting more or less for forty-five minutes.

IV. Female, aged twenty-six. Five drops of a five per cent. solution, caused, three minutes after injection, giddiness, palpitation, quick pulse, languor and temperature rise to 100 8.10 in fifteen minutes.

Dr. F. De Havilland Hall, London, reported the case of a lady, aged fifty-six, to whose nostrils he applied a ten per cent. solution by spraying. In a few minutes patient complained of cramp-feeling in throat; became very excited; face ashy hue; hands cold; pulse very frequent, and distress was so great that chloroform was given, which relieved the spasm, but she was not able to leave until after four hours.

Knapp noted headache, vertigo, nausea, tottering gait, skin pallor and cold sweat from hypodermic injection of thirty-five drops of a four per cent. solution, with instillation of a few drops of the same in the conjunctival sac.

Reich reported two cases, both females, aged ten and sixty, in which toxic symptoms followed the use of fifteen drops of a two per cent. solution.

Bellyarminoff, of St. Petersburg, observed five cases in which a four per cent. solution to the eye caused headache, vertigo, nausea and vomiting.

Alexander Thompson, M.B., Huntly, Eng., reported this case: He applied a few drops of a fresh two per cent. solution to the conjunctiva of W. R., aged twenty five, perfectly healthy, prior to removing a fragment of steel. In two minutes patient became deadly pale, reeled and would have fallen if not supported. Was quite pulseless, and, with difficulty, was brought round. Fully half an hour passed before he could go home, and even then was giddy.

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Dr. Grosholz, Towyn, Eng., observed a healthy farmer to whose eye three drops of a four per cent. solution were applied, causing pallor, profuse sweating about head and neck, irregular pulse, embarrassed respiration and impending syncope. A stimulant was given, but it was several minutes before the pulse became regular and consciousness was regained.

Dr. Edward Bradley, of New York City, noted this case: A professional gentleman, in perfect health, had a four per cent. solution freely used in the filling of a carious tooth. Toxic symptoms soon appeared, the most noted being facial paralysis on the right side. "This condition undoubtedly began its development much earlier than the time of its discovery, as it went on its course of extension for the two succeeding days, involving every function on the right side of the head, rendering me deaf and unable to close the eye. The brain was depressed so as to destroy all continuity of thought, and I was unable to read or exercise any mental function whatever." The paralysis remained stationery ten days, then slowly lessened, but had not entirely gone at the end of six weeks.

Smidt, Ranc, Obersteiner and Blumenthal have noted, after an injection of cocaine, dizziness, agrypnia, muscular twitchings, increased reflex excitability, hallucinations and mania.

Dr. Charles H. Hughes, of St. Louis, editor of *Alienist and Neurologist*, wrote me: "I know of a case where one grain of cocaine paralyzed the heart so effectually that the pulse became imperceptible for a few seconds, and only my presence with my battery, which was in the room, and ammonia, and a morphia and a strychnia hypodermic saved the patient."

Germane to the subject of acute cocaine toxæmia is that of cocaine addiction—these notes are preliminary to a more extensive paper on cocaine inebriety—the existence of which Dr. Hammond denies. He took a half dozen doses, at intervals of one to four days, and says "he acquired no habit." But to argue from that no danger of addiction, is absurd. Such evidence is worthless. Dr. Hammond might do the same thing with morphia—more, he might take morphia subcutaneously, daily, for a month or two, without creating a "habit"—albeit its ensnaring power is well admitted—and yet that would not prove its freedom from danger. Not at all; it would merely show his exceptional strength to resist—many, under a like pressure, would surely succumb.

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Supporting this opinion, I quote from the last report of Dr. Orpheus Everts—Cincinnati Sanitarium—a gentleman well-known in alienistic circles—which report was kinldy sent me after my paper was written—who says: "A distinguished physician of New York has recently reported personal experiences tending to discredit the claim that a cocaine habit, corresponding to the morphine habit, is acquirable. The judgment of this distinguished physician is based upon the evidence of personal experience reported by himself, he having failed to acquire the habit, or any especial fondness for the specific effects of the drug, experienced by the hypodermic injection of one, two, three, and finally eighteen grains of the salt, on five or six different occasions in the evening before going to bed.

"But for the great reputation of this physician as an author and observer of facts, this denial would have but little weight. The testimony is both bad and insufficient. Bad, because reported by himself—the testimony of an intoxicated person respecting his experiences while intoxicated being proverbially untrustworthy—and insufficient, because the experiment was not continued long enough. Many instances might be cited of total failure to establish the morphine habit or habitual drunkenness, by the use of six or seven doses of morphine, or six or seven drinks of whiskey, one a day for six or seven days in succession. It is often the case that such experiences end with disgust for the drugs used, instead of a desire to continue their use. There is also much and accumulating testimony, by competent observers, to the fact of such a habit as is alleged, respecting cocaine, which a single opinion will not invalidate, however worthy of consideration."

Cocainism is not the outcome of using the drug at long intervals. Its transient effect and the demand of an impaired nerve status compel frequent taking—more than alcohol or opium—so that habitués have been known to take it ten, twenty or more times daily, and it is this—growing by what it feeds on—that tends to create and continue the disease.

In the early days of chloral one point claimed in its favor was a freedom from risk of "habit," a claim long ago exploded, as cases of chloralism well prove, and yet, I venture to assert, there are more cases of cocaine-taking in this country to-day, less than three years since its arrival, than of chloral after a period more than six times as long.

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Dr. Hammond says there may be instances of cocainism as rare as chronic tea-taking, and of cases with or after habitual alcohol or opium using, but, as for quitting the drug, he believes every cocaine-taker could if he would.

The same opinion regarding opium obtains among some medical men, and the only effective argument against such a fallacy is to place those who hold it under power of that drug, and then have them prove their precept by their practice.

While admitting that most instances of cocaine-taking are, for obvious reasons, in those who have been, or are, alcohol or opium habitués, especially the latter, I maintain there are cases of pure, primary addiction, and that the number is increasing at home and abroad. Foreign writers have noted them, and they will figure in our records. Notes of one such are here given; others are at command.

I am indebted to the courtesy of Dr. J. E. Clark, Professor of Chemistry, Detroit College of Medicine, as follows: "In July, 1885, a young man applied to me for relief for what he called a 'severe and persistent case of hay-fever.' He had consulted a large number of physicians without obtaining relief from the irritating and annoying acrid discharge from the nostrils. He claimed he only wished relief for a time until he could make arrangements to leave for the West, as he had lost hope for anything like a permanent cure in this climate.

I prescribed the following:

℞.—Cocaine muriat..... Eight grains,
Aquæ camphoræ..... Six drops,
Aquæ destill..... One ounce,

with directions to pour a small quantity in the hand and snuff occasionally.

Three or four days later he appeared at my office, his face radiant with hope that he had found a specific, and remarked that "he had felt better the last few days than for a year." He had exhausted his medicine, and I consented to his having the prescription refilled. I heard no more of the case until one day in November I was in a drug store, and was asked by the proprietor, 'do you know Mr. —— is using about eight dollars' worth of cocaine a week'? I expressed my astonishment, forbade any further sale, and at once called, but

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failed to find the young man. I then drove to his parents' residence and asked them if they were aware of their son's excess in this matter. They did not know of his addiction to the cocaine, but had noticed for sometime peculiar symptoms which alarmed them. I explained the circumstances fully, and added my belief that no serious results would ensue provided total abstinence should follow. The sequel shows, however, the 'habit' had gone too far to be easily eradicated as the young man went on until he became temporarily insane, had to retire from his business and be under strict supervision until the craving disappeared, a space of about three months." The doctor adds: "This case has furnished me such *positive proof* of a lurking danger in the use of cocaine, that all the negative evidence or hypothetical assumptions published, or adduced, cannot have the least impression in causing me to relax for an instant the most rigid supervision of every patient to whom I in any manner administer or apply the drug."

The following report, kindly sent me by Dr. Douglas Schoolfield, Newport, Ky., well shows the ill effect of cocaine on patients addicted to morphia:

Mr. —— had been an opium habitué for several years, from morphia given subcutaneously to relieve sciatica.

In May, 1885, taking ten to fifteen grains daily, with nervous and digestive systems impaired, but weight nearly normal and mind clear and vigorous, he came under the doctor's care. Cocaine being then in rising repute as a cure for morphia-taking, he was given half a grain, subcutaneously, knowing, unfortunately, what it was. Nausea, pallor, rigors and cold sweat soon ensued, followed by flushed face, brightened eyes and a feeling "never so good in all his life." He was delighted, talked incessantly and declared himself, mentally, the peer of Spurgeon; physically, equal to Samson. The stimulant effect continued two hours, followed by lassitude and sleep. The cocaine was given at irregular increasing intervals for two weeks, when an effort was made to quit. Two days later he left for a summer resort and was lost sight of. The next heard of him was through the town druggist, who remarked that he thought Mr. —— must be "getting a 'corner' on cocaine," as he had ordered his entire supply and the address of his wholesale house. He was written to and urged to place himself under proper medical care; but no more was heard of him for two months, when the Doctor was

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sent for, told he had been brought back and given this history: On starting for his summer trip he procured a supply of cocaine and began taking it himself several times a day. In a few days he talked and acted strangely, slept little, appetite failed and he grew worse daily. An effort was made to withhold it or substitute morphia, but he resisted both and raved like a madman. He had always been kind and even-tempered, but now became irritable and abusive; had hallucinations and homicidal delusions; would leap from bed, rush to a window, raise sash and gesticulate wildly at a fancied foe. Calmed, he would be quiet a time, and then break out in the loudest abuse of some friend present, declaring him in league with the devil for his harm.

The Doctor was warned as to entering his room, and proceeding with care, patient was found in fighting form, with a long-necked bottle ready for battle. Addressed kindly, his suspicions were disarmed, he abandoned his hostile attitude, apologized and declared himself quite mistaken. "His condition was pitiful indeed. Constant vigil and loss of sleep had made him a wreck. He was pale, thin and haggard; ate nothing and slept none; was a prey to distorted fancy, a victim of unrest."

Under proper treatment he partially recovered, and was placed in Sanitarium care. Six weeks after was discharged, but in bad mental condition, morose and melancholic. He soon became violent and threatening, and was again taken to an asylum, where he now is, improved and improving.

My experience with a number of cocaine cases makes, to me, two things certain—there is a pernicious power *per se* in this drug, and it finds in the opium habitué a peculiar condition that specially favors its ill effects, making it, for such patients, as has well been said, the "Devil's own device" to still further enslave.

And this opinion is that of others, for it is the testimony, without exception, so far as I know, of those who have had to do with this disease, that as an intoxicant cocaine is more dangerous than alcohol or opium, and that inebriety resulting from its use is more marked and unyielding than any other form.

Dr. Shrady, editorial, *Medical Record*, November 28th, 1885, says: "To some persons nothing is more fascinating than indulgence in cocaine. It relieves the sense of exhaustion, dispels mental depression and produces a delicious sense of exhilaration

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and well-being. The after-effects are at first slight, almost imperceptible, but continual indulgence finally creates a craving which must be satisfied; the individual then becomes nervous, tremulous, sleepless, without appetite, and he is at last reduced to a condition of pitiable neurasthenia."

Dr. Alexander B. Shaw, Physician to St. Vincent Asylum for the Insane, St. Louis, asserts: "Once a man flies to cocaine for relief from 'cares that annoy,' he generally continues with such rapid strides towards such complete subjugation to its bewitching thraldom as but few will ever be rescued from by any power of will which they may be able to bring to their aid."

Dr. Everts writes: "It is not only not an antidote to opium poisoning—or, more properly speaking, the organic demand for such drug effects as have been acquired by use—but is itself a fascinating and dangerous intoxicant, the effects of which may be more difficult to counteract and renounce than are those of opium or its derivatives."

Dr. Hughes declares it "a remedy to be used with extreme caution and prudence internally, and the large doses reported as having been given are not ordinarily safe. It will bear watching. It crazes and kills quicker than opium. The possibilities for immediate harm are not only great, but the likelihood of remote damage when tolerance is established is not small. The cocaine habit, more pernicious than the morphine neurosis, is the certain entailment of its frequent administration and its thraldom is far more tyrannical than the slavery of opium."

Erlenmeyer calls cocaine the third scourge of humanity—alcohol and opium being the first and second—and Erlenmeyer is right as to toxic neuroses. He says: "Its characteristic effects are vaso-motor paralysis, accelerated pulse, profuse sweats, dyspnœa and syncope, failure of general nutrition, eyes sunken, skin cadaveric, with mental trouble that sometimes needs restraint," and I am positive, from cases under my care, that he is correct.

I think it, for many, notably the large and enlarging number of opium and alcohol habitués, the most fascinating and seductive, dangerous and destructive drug extant; and while admitting its great value in various disordered conditions, earnestly warn all against its careless giving in these cases, and especially insist on the great danger of self-injecting, a course almost certain to entail added ill.

To the man who has gone down under opium and who thinks of

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taking to cocaine in hope of being lifted out of the mire, I would say, "don't," lest he sink the deeper.

I have yet to learn of a single instance in which such an effort reached success; but know many cases where failure followed, or, worse, cocaine or coca-morphia addiction.

And the need of caution against free and frequent using obtains in other cases, for there may come a demand for continued taking that will not be denied.

To summarize:

Cocaine may be toxic, sometimes deadly, in large doses.

It may give rise to dangerous, or even fatal symptoms, in doses usually deemed safe.

The danger, near and remote, is greatest when given under the skin.

It may produce a diseased condition—in which the will is prostrate and the patient powerless—a true toxic neurosis, more marked and less hopeful than that from alcohol or opium.

Such being my belief, I regard Dr. Hammond's statements mistaken and his conclusions rash and dangerous.

TRACHEOTOMY IN DIPHTHERIA.—After discussing the time at which this operation should be resorted to, in the *British Medical Journal*, March 5, Dr. W. Watson Cheyne thus concludes: "It will be evident that the object of this paper is not to recommend the application of any particular antiseptic substance in this disease, but to raise the question of the indications for performing tracheotomy in diphtheria. And I believe more lives will be saved by opening the trachea early, as soon as the larynx is evidently attacked, and by attempting to prevent the spread of the membrane downwards, than by delaying the operation till the symptoms of obstruction are marked. The probable advantages, I think, more than counterbalance the possible dangers, for, apart from the advantages generally admitted to attend early tracheotomy, there is the further advantage that there is a possibility of arresting the spread of the disease, and also of applying medicaments to the larynx."—*Medical and Surgical Reporter.*

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SELECTED PAPERS.

ACUTE LARYNGITIS IN CHILDREN.

Dr. Arthur Foxwell contributes to the *Birmingham Medical Review* a most valuable article on the above subject, from which we take the following:

In dealing with acute laryngitis, as it affects children only, there are three varieties where diagnosis of the true condition is extremely difficult, and where, unfortunately, this is of very great practical importance. These are (1) That arising in diphtheria, where the faucical lesion is but slightly marked and the laryngeal symptoms arise early; (2) Catarrhal laryngitis, arising at the outset of an attack of catarrh or morbilli; (3) Membranous laryngitis, arising in the same manner as the catarrhal form. In attempting their diagnosis I will, to avoid repetition, state the diagnostic points of positive value only.

1. In the first variety the history is one of gradual onset, usually at least three or four days. "About Monday he began to mope," says the mother, "and went off his food." Yesterday the difficulty of breathing was first noticed; this was not then severe, nor did it seem greatly to trouble the child, but the difficulty has steadily increased; and on inquiry you may find he has mixed with one or two others, adults or children, who have suffered from sore-throat. There is marked asthenia. You can hear but little air entering the bases of the lungs, yet there is no cyanosis nor strenuous effort to conquer the obstruction. The appearance of the face, and, indeed, the whole body, is one of gray pallor rather than lividity. The tongue is dry and brown, while the bowels tended more to looseness than constipation. The pulse is small, of very low tension, and very little disturbance alters its rate of beat. Pyrexia there is none, or but one degree or so. The urine has a thick cloud of albumen. The fauces, whether membrane exist on them or not, are but moderately inflamed, and there has been little or no history of painful swallowing.

2. The onset of laryngeal symptoms in catarrhal laryngitis is sudden and sthenic; the child has in no way ailed, or merely had a slight cold; he has not been ill enough to keep in bed or away from school

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These are the cases to which one is hurriedly called at night, for often the child wakes with a fit of crowing. Nearly always can you obtain from the mother, excited though she be, accurate information as to the hour or half-hour when dyspnœa first arose. This may not be the first or second paroxysm, and you may be told that no symptoms of ill health existed in between. There may have been previous attacks long since; the parents or a brother or sister may have similarly suffered. The patient is evidently in the throes of an urgent sthenic disturbance; the countenance is flushed, the eyes staring and blood-shot. Though the quantity of air entering the lung bases may seem to your ear far larger than was the case in the child with diphtheria, yet are most strenuous efforts made to increase this amount; the lower ribs are violently drawn in, the nostrils dilated, the chin thrown out, and all the voluntary muscles brought to bear. Cyanosis is beginning, but yet pyrexia runs high and the pulse is full and bounding; later, it is true, when cyanosis is advanced, the temperature drops and the pulse becomes slow and asphyxial. The fauces are acutely inflamed, the tonsils being usually much swollen, and deglutition is extremely painful. The tongue is clean and too red, or toward the base is a thick white fur, while the fungiform papillæ are unduly prominent near the tip. The bowels are confined. In the urine is but a trace of albumen, and this may not be discovered till after two or three examinations.

3. This variety resembles the second in its sthenic nature and the suddenness of its onset. The history, too, may tell of a previous attack of catarrhal laryngitis, but this is unusual, although other members of the family may have so suffered. Whatever the previous history, the dyspnœa having once arisen is *permanent and increasing*, though, unfortunately for diagnosis, varyingly so; on the other hand, its onset is more marked and its increase far more rapid than is the case in diphtheria. The conscious struggle for breath and life is here as painfully evident as in the catarrhal form, and the outward aspect of the sufferer much the same. No membrane, or but one or two small scraps, can be seen on the fauces, and these are acutely inflamed and swollen as in the second variety, while swallowing is even still more painful. Pulse, urine, tongue and bowels are in a similar condition.

Finally, a few words as to treatment. In this regard I shall refer solely to the three varieties just mentioned. Decision in these cases is of the utmost value. Our aim is to snatch life from immediate extinction; that aim accomplished, we have many resources by which

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to drag the child through the wreckage our somewhat heroic treatment has produced. Indeed, not much dragging will be needed; children speedily recoup themselves for injuries received if the action of these be only of short duration.

Speaking generally, my routine method of proceeding is as follows: At once, on the child's admission, I give an eighth of a grain of tartar emetic as a powder every ten minutes till free emesis occur; if after five doses there be no emesis, I double the doses at the same time that I double the interval between their administration; if after three quarter-grain doses thus given no emesis occur, I again double both dose and interval; but only twice in some thirty cases have I had to have recourse to doses of half a grain, and never have I had to give more than two of these. From the commencement, along with the tartar emetic I give a grain of calomel every four hours. Should the case be a very acute one, and not unless, I place the child in a steam tent, and if necessary keep hot sponges applied externally over the larynx. If these fail, I ask the surgeon to perform tracheotomy. A castor-oil enema should be given immediately on the patient's admission.

These are the measures I adopt for a fairly healthy child of two to four years; they are those which were practiced with such success by the preceding generation. In tartar emetic I have the greatest faith; it is a most certain antiphlogistic and one of very rapid action; I have never known it fail to produce emesis, a quality which greatly adds to its value in acute laryngitis, though in its emetic powers by no means reside its chief virtue, for great amelioration of symptoms often occur before this is produced. Like most drugs of rapid action, its power is very transitory, and therefore calomel, whose changes are brought about slowlier, but are more persistent, should be united with it, and its administration continued for at least sixty hours, or at any rate till all attempts at pyrexia have ceased.

In this relation I value the drug ipecacuanha at a very low price. As an antiphlogistic I have never detected its power, and in acute laryngitis there is no time allowed for it to produce its special effect on the mucous membrane. It has emetic powers, but if emesis be the only end in view, sulphate of zinc has a simpler and more rapid action.

A steam tent and hot sponges constantly applied to the *pomum adami* are remedies of the utmost value; indeed, properly adminis-

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tered, there can be but few cases of non-membranous laryngitis which they will not relieve; but in private practice they are far less get-at-able than drugs, and there is often difficulty in instilling into the nurse's mind the difference between hot and *warm* sponges. They have one great drawback; they merely alleviate the local evil, they do not strike at the general inflammatory condition which is the root of it all as do the antimony and calomel. If once the urgent symptoms are combated by these, I leave my patient devoid of anxiety, for relapses are rare, and, when they come, but subacute. But the steam and sponges do not touch this constitutional state, they merely keep it from manifesting itself locally in the larynx; this, too, they keep in an enervating atmosphere, so that it is more liable to catch cold again when removed from their gentle cosseting. It is always dangerous to take away a steam tent or the sponges at night, these should be removed on successive forenoons; even so, however, it is occasionally as tedious a proceeding as the removal of a tracheotomy tube.

In a sthenic case I never, therefore, omit the antimony, whether there be membrane or not; for I believe these prompt antiphlogistic measures go far to hinder the after-development of membrane in the bronchi and trachea, though I know some surgeons look with eye askance at these humble tributes of the physician, and long to bolster up the little fever-stricken child with iron and alcohol. This is because they believe that

> All diphtheria is asthenia,
> All membrane is diphtheria,
> Therefore all membrane is asthenia,

which is a syllagism in Barbara, the soundest of all syllogistic forms; but their minor premise I deny in toto, for I maintain most earnestly that all membrane is *not* diphtheria.

Abstraction of blood would be useful when the administration of antimony is the less easy peformance of the two, or in those extreme cases where even antimony's action cannot be tarried for; but my experience of it is practically nil, for I have tried it on but one case; there it proved beneficial.

Lastly, as to tracheotomy. I have never seen a case of non-membranous laryngitis which required this treatment, and it is hard for me to believe in its absolute necessity in this form.

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Tracheotomy is no operation to be lightly undertaken; in its results, at any rate, it belongs to the major, rather than the minor, performances of surgery. I have done it myself only twice, but have seen it performed a good many times by others; and it is especially true of so exciting a procedure as this, that lookers on see most of the game. My experience has lain, too, in three large hospitals where there is no lack of many-handed assistants, and where the operator has the greatest of all requisites—the skill resulting from repeated performance—in a far higher degree than most practitioners in private can possess. In those cases where there is only one medical man and no nurse, I believe it to be an operation of the greatest danger. If you give no anæsthetic, you have all the risks of a terribly restless child held in the unsteady arms of a loving novice. If you act both as anæsthetist and operator, I need say no more to any one who has given chloroform on these occasions. However, it is not tracheotomy itself, but its results which I so greatly dread. When is the tube to be removed and the hole closed? How long must the child run the increased risks, which such an opening gives, of pulmonary inflammation? When closure takes place granulations may still set up spasm or ruin the voice. In the case of non-membranous and membranous laryngitis due to chill, you may have the whole bronchial tract in a state of acute inflammation and eager to produce a membranous exudation; the hole in the trachea lets in raw air, an irritating tube, and teasing feathers upon this sensitive tract, and may be gives the finishing touch to its membranous determination.

In non-diphtheritic membranous laryngitis, then, I put off tracheotomy as long as possible; I have no fear of unduly depressing my patient; every case of this variety which I have seen die after tracheotomy has died of asphyxia from descent of the membrane along the tubes, not of æsthenia. Here, also, is tracheotomy a most hopeless expedient; I have only known one out of ten cases recover, and she, it is significant to observe, was *in extremis* from long dyspnœa and collapse of lung before the operation was performed. Those that died usually got great relief from the operation, and for a few hours appeared well, played and smiled, but in some twenty-four hours the deadly dyspnœa resulting from blocked bronchi began to show itself, and the child died convulsed and comatose. The interim of healthfulness shows, I think, that the end was not brought about by æsthenia.

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In diphtheria it is otherwise. Here is æsthenia enough and to spare. The membrane, too, has far less tendency to descend, hence the result is by no means so hopeless. It is not the progress of the local disease, but the constitutional depression which one has most to dread. Nothing can be more exhausting than the strugglings of dyspnœa. In diphtheria, then, I have tracheotomy done so soon as ever there be any serious laryngeal obstruction.—*The American Practitioner and News.*

DRUMINE.

By JOHN REID, M.A., M.D., C.M.GLAS., Melbourne, Australia.

Habitat.—In North Australia; in New South Wales; in Tasmania; in Western Australia and in Victoria.

Preparation.—The whole plant, including the rhizome, seeds, etc., is macerated in dilute hydrochloric acid for some days. It is then strained through linen under pressure. (The plant may be boiled in the dilute acid and strained under pressure.) Sodium bicarbonate is added, stirring while adding it, until an alkaline solution is obtained with precipitated drumine. The product is filtered, and the precipitate is washed with water to get rid of coloring matter, leaving drumine on the filter. This may be dissolved in dilute acid, and evaporated to obtain the hydrochlorate or other salt.

Properties.—Alkalies precipitate it, the salicylate is very sparingly soluble in water and gives a crystalline precipitate. It may be crystallized from aqueous, spirituous or chloroform solutions in aciculæ, the larger ones almost rhombic, under a high power of the microscope, and stellate crystals, all microscopic. The powder is either dirty like morphine, or pure white. The solution is compatible with iron and acids, cyanide of potassium and a neutral solution precipitate it, not prussic acid; perchloride of mercury is compatible with it; strong nitric acid does not act on it chemically, but dissolves it, as does H_2SO_4.

Uses.—In nasal catarrh, injected into the nostrils, it effects an immediate cure. This may, in chronic cases or otherwise, be used in solution with gr. i corrosive sublimate to the pint, and gr. vi ad

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℥ i hydrochlorate of drumine. Spasmodic contractures at anus—solution locally; the same in pruritus. Facial dermatitis, with acne and itching: spermaceti ℥ i, drumine gr. x. Sciatica or lumbago: case of two years' duration, unaffected by other remedies, cured by two injections. Sprains:—Cases of sprained abdominal muscles cured speedily by free injections. Periosteal pain following fracture of the lower end of the sternum, with tenderness, of two years' duration, cured by injections. Burns:—Extensive denudation of skin; very free application to raw surfaces; relief of pain; no constitutional symptoms. Neuralgia:—Dropped into the eye, it gave relief. Operations:—Used in probing for splinter (producing feeling of deadness); in probing abscess in the foot, etc. Internally:—Relieved the feeling of thirst on a scorching day, and made the tongue moist. On Tongue:—One side may lose the sense of taste for quinine, the other being unaffected (repeatedly tried); also common sensibility destroyed.

Compared with cocaine, it does not dilate the pupil; it does not stimulate prior to paralyzing sensation; it produces no constitutional symptoms when applied to extensive surfaces.

Notes.—Mr. Stanley, M.R.C.V.S., found that sheep might eat it for sometime without its causing death, and that, when given in poisonous doses, it causes hoven. This supports my views, seeing that the sensory nerves of the gut are paralyzed, secretion as well, and so absorption is in abeyance. One cat I experimented on was paralyzed in the extremities; but the dose was very large, and a spirituous solution was used. The stomach, etc., in a cat that had tasted neither food nor water for nine days was natural and free from inflammation, etc.; the blood was natural; the bowels were empty. I have written quite fully enough to show (1) that the drug is a pure æsthetic; (2) that it is safe; and (3) that it may be used both internally and externally with advantage. For further particulars I would refer to my more extended articles in the *Australasian Medical Gazette* and the *Chemist and Druggist of Australasia.* I have given only experiences.—*British Medical Journal.*

For Corns and Bunions an efficient remedy is equal parts of castor-oil and tinct. iodine. This is to paint on the part two or three times a day.

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DEEP TUBING OF THE LARYNX AS A SUBSTITUTE FOR INTUBATION WITH REPORT OF NINE CASES.

At a meeting of the Chicago Medical Society Dr. A. E. Hoadley read a paper with the above title.

In these cases the tube was introduced so that the head of the tube rested within the larynx. Eight of the cases were able to drink consecutive swallows immediately after the operation. While all the cases were fatal, the deep intubation gave the greatest relief. Dr. Hoadley believed the most objectionable feature in the O"Dwyer method is the projection of the head of the tube over the top of larynx, interfering with deglutition and exciting cough. This he proposes to obviate by "deep tubing," which he accomplishes by modifying the tube as follows: shortening the tube to nearly the length of the larynx, making the head of the tube conform more nearly to the interior of the upper part of the larynx. Making the upper surface of the head cup-shaped to facilitate the introduction of the extractor, having that portion of the posterior border of the tube corresponding to the arytenoid cartilages stand on a plane anterior to that of the rest of the tube, so that pressure at this point will be slight, making the obturator three-eights of an inch longer than the tube to facilitate the deep introduction of the tube. The long tubes, owing to the mobility of their lower ends, produce irritation in the trachea, exciting cough and pain.

Dr. F. E. Waxham opened the discussion and said: In this connection I take occasion to present a bronchocele which produced death by pressure on the trachea. The history of this case, briefly, is this: The patient was a girl 14 years old; she had been troubled with a goitre for about a year, which increased rapidly in size and the people observed that it was at times larger than at others, more particularly after the child had taken cold; but still the goitre gave no inconvenience until three days before death, when it is stated the child had taken a slight cold and the tumor became larger. With increase in the size of the tumor and the consequent pressure upon the gland by the sterno thyroid muscles, great dyspnœa resulted. The patient was attended by Dr. J. G. Berry, who recognized the true condition, and on the third day I was called to perform intubation. The child was now in the most desperate condition, indeed, it was moribund, the pulse was feeble, rapid and thready, hypostatic congestion had already occurred in the lungs, and the child was

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semi-comatose. While in this condition the largest size intubation tube was introduced into the trachea, but it failed to give relief simply because the tube was not of sufficient length. It would not reach through the stricture, and from the pressure of the gland, as rapidly as it was pressed down into position so rapidily would it be pressed up again. The child was so near dead that tracheotomy was thought to be useless. To meet such emergencies as this I have had a much longer tube constructed, one that will pass entirely through such a stricture and consequently give perfect relief. The object in performing intubation in cases of bronchocele would be to give immediate relief, and to give us time in which we might perhaps reduce the tumor by electrolysis or the internal and external use of iodine; or these measures failing, we could then leisurely enucleate the gland. Bronchocele may produce death by pressure laterally, or by suffocation from pressure upon the trachea anteriorly; or a lobe of the gland may develop between the œsophagus and the trachea and produce pressure posteriorly. In this case the pressure was exerted laterally. Coming more particularly to the discussion of the paper presented to-night, I feel that it should not go without a few words of criticism. As I believe that an old adage is that the proof of the pudding is in the eating of it, and as intubation has been performed nine times without a success by this new procedure, I would feel that there is little to recommend it. First, in regard to the position of the tube, the author recommends that the tube be reversed, and instead of placing it with the beveled surface forward and the shoulder projecting backwards, he recommends the tube turned so that the shoulder will project forward and the beveled surface backwards. A case has been reported to me in which there was complete perforation at the base of the epiglottis from the pressure of the beveled surface of a straight tube. The most perfect tubes are now made with the upper surface curved slightly backwards so that no pressure will be exerted upon the anterior wall. If we turn the tube around and place it with the projecting shoulder forwards, how much greater must be the danger from ulceration. Again, the author refers in his illustration to a tube with a shoulder broad posteriorly—a tube that has been discarded sometime since, for it has been found that a tube with an olive-shaped head fits the larynx much better than the old tube. I think the author is mistaken about the head of the tube riding high

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and resting upon the arytenoid cartilages. It depends altogether upon the judgment used in the selection of the tube. If a tube is used larger than is appropriate to the age of the patient, it will be found that while the tube can be passed into the trachea without difficulty, yet the head will not sink into the larynx, and then it will ride high and swallowing becomes very difficult indeed; but if the tube has an olive-shaped head and is appropriate to the age, then it will sink into the cavity of the larynx, resting upon the vocal cords, and swallowing is attended with but little difficulty. In regard to the length of the tube, it would seem to me that little would be gained by making it shorter; indeed, this was one of the reasons of Burchut's failure thirty years ago. You can readily see if we use a short tube, one simply projecting through the larynx, there would be much greater danger from detachment of false membrane below the tube. In offering these criticisms it is with no unkind intent, or for the purpose of discouraging attempts at improvement. While I have now performed this operation over one hundred times and with a success rarely attained by tracheotomy, yet I do not consider the instruments fully perfected.

Dr. Ferdinand Henrotin said: My position is very strongly in favor of that taken by the author of the paper, and as Dr. Waxham says the eating of the pudding tells us about the making, my experience has been directly the opposite of that of Dr. Hoadley. I have only had a few cases, but if they are of any importance in elucidating this point, I take pleasure in giving them. I believe in having the tube facing in the way mentioned in the paper. My first case was about a year ago, the patient being brought to me from out of town. As it was my first case I took particular pains to follow the regular method as pointed out by those who had introduced it, and so introduced the tube with the upper face looking forward and upward, that is, the upper plane at the entrance. The child threw up the tube within ten minutes. I immediately replaced it, and while he remained in the office he was perfectly free in his breathing and entirely relieved from stenosis. In spite of my endeavors to have him remain, he was taken to his home in the country, the tube remaining in place. About eight o'clock the next morning he coughed up the tube. He was all right for an hour, then began to choke up again, and in another hour died from stenosis. In another case I had immediately after, there was no

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relief. I introduced the tube four different times; I had it in the larynx and it remained in position, but the child was not relieved. I intubed a third child and it died. These three cases were all with the tube in the way mentioned by Dr. O'Dwyer, and they all died. Following that I had three successful cases, and the tube was introduced the other way, facing in the other direction. In one of the cases I had no particular trouble in taking the tube out, but I had more or less trouble in introducing it, a little more than the other way. These cases all recovered. I had a case that recovered—a child of seventeen months—who retained the tube four days and coughed it up himself. Following that and a little talk I had with Dr. Bartlett on the subject, I again resumed the method of Dr. O'Dwyer, and placed the tube in the other direction, and that child died. Day before yesterday I was called to place a tube, and I introduced it without difficulty. I put the tube in about nine o'clock in the evening, and yesterday, a little less than twenty-four hours after putting in the tube according to the O'Dwyer method, it was coughed up by the patient. I went back last evening with Dr. Cunningham, and said: "Now I am going to put the tube in the other way, and see if the patient coughs it up." I replaced the same tube, facing the other way, and he has had no difficulty, as yet, in retaining it. I have had four cases intubed by the O'Dwyer method, with four deaths; three ceses with the tube turned the other way—all recoveries. I suppose it is a coincidence, to a great extent. The eighth case has not progressed far enough to state whether the child will recover. In regard to the advantages of this method, so far I have never had a tube coughed up that was put in in that way, except one, on the fourth day, but the child recovered. It seems to me the tube holds much better, it sinks into the larynx and in most cases disappers; you cannot feel it with the finger, while, if it is turned the other way, you can feel the edge of it with your finger. So far as the extraction of the tube is concerned, except in two instances I had no particular difficulty. As regards swallowing liquids, so far as my observation goes I think it is speaking a little strongly to say that the patients can swallow; I do not think they can swallow much; I feed them on semi-solids; I cut a raw oyster in pieces and let it slip down; a custard and the white of an egg, that slip down easily, and that, with little pieces of ice to quench the thirst, has usually succeeded with me. The

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disadvantage that I consider attaches to the short tube is that the expulsive effort at coughing would frequently cause it to be coughed up. The length and weight of the tube must be an element in keeping it in place. It seems to me we are using too small tubes. I am using the second size in a child of four years, and getting along quite well. As far as the difficulty of introducing a long tube is concerned, I simply start the tube, and as it slips into the larynx withdraw the obturator, and just as it comes out of the tube my finger slips into its place and pushes the tube home.

Dr. E. Fletcher Ingals said: I have had no practical experience in putting in the tube *the wrong way*, and I do not know how well it may turn out, but anatomically it is certainly wrong unless the shape of the tube be modified. It may be that, with the head of the tube modified, it would sink into the larynx, as recommended by the author of the paper, but with the tube as constructed by Dr. O'Dwyer, it does not seem to me a safe procedure to insert it wrong side foremost, for fear of pressure upon the epiglottis, causing ulceration. As to the effects of deglutition, if the tube fitted and would set deep in the larynx and remain there, of course the patient could swallow more readily. It seems to be the experience of the last speaker that these patients do not always swallow readily, even when the tube is seated deeply in the larynx, and I am inclined to believe that unless some device can be invented to prevent the entrance of fluid, it is better that the patient should take none. Where I have introduced the tube it has been for other physicians, so that I was usually unable to watch the subsequent treatment, but in those that have recovered I have insisted that they should drink absolutely nothing. In the last case I insisted upon it so strongly that I told the parents if they gave the child a teaspoonful of water they would kill it. The child will want to drink very badly after the first twenty-four hours, but it is not a necessity for a few days. If no fluid is allowed, the patient is not nearly as likely to have bronchitis or pneumonia as when it is permitted to drink. The child may have ice, it may have enemas, and may have soft solids in abundance. As to the length of the tube, I agree with the last speaker, that the long tube is the better. One of Bouchot's mistakes was that he made his tube too short. But the principal reason for his failure was that he attacked tracheotomy; he not only wanted to introduce his tube, but he wanted every one else to

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stop tracheotomy. I would like to know what success Dr. Waxham has had with the rubber in preventing the entrance of fluids into the air passages.

Dr. John W. Niles said: My observation so far leads me to think that it does not make very much difference which way you introduce the tube as regards the patient's ability to swallow fluids. In neither way can this be done without exciting cough. In the two cases in which Dr. Henrotin introduced the tube for me he introduced it the wrong way, and they swallowed fluids better than I expected they would. The next case I had introduced it myself the wrong way, the same as he did the others. The child had more difficulty in swallowing than the others had; on the third day he coughed the tube up, and when I reintroduced it, it was in the way recommended by Dr. O'Dwyer, and there was a marked improvement in his ability to take fluids. In fact, he swallowed better than the other two. He succumbed to the disease six days after the tube was first introduced.

Dr. E. E. Waxham said: In regard to the rubber attachment which I have recently devised, I certainly think it a great improvement. Some may not desire to use the artificial epiglottis attached to the rubber collar, in which case it can be removed and the tube will still be a great improvement, inasmuch as, the head being small and surrounded by the rubber, it will fit the larynx more perfectly, there will be less irritation, and ulceration will be impossible. I have recently saved two little patients in which this device was used, and have also employed it in other cases with advantage. I agree with Dr. Ingals that it is best to keep water from the little patients as far as possible. I usually advise ice-cream, a very little at a time, or that a small piece of ice be placed in a cloth and held in the mouth. This relieves the urgent thirst without causing the frequent coughing that arises from the endeavor to swallow water.

Dr. Hoadley, in closing the discussion, said: As I mentioned in the paper, I started out in this matter of intubation really on my judgment as to the position the tube was designed to take in the larynx, for I had not given the subject sufficient attention to remember that the tube was designed to rest high in the larynx, and my experience has been so very pleasant, so far as the non-interference with the function of the throat is concerned, that I have decided in my own mind that deep tubing is preferable to intubation. The

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cases that I have tubed in that manner were all bad cases, and not in a single one could I give a favorable prognosis. They were all promptly relieved, and that was all I expected to attain from the tubing. I have recommended the short tube; the only advantage that the long tube can possibly have over the short one is its weight, except in rare cases, and then its length is of advantage. In the majority of cases of laryngeal stenosis the obstruction is entirely in the larynx, and when it does extend down into the trachea the probabilities are that the child will die of continued extension, and in such a case the long tube can be introduced. In the nine cases I tubed in this manner I used the long tube, so I cannot say whether the short one would have relieved the stenosis. In one autopsy where there was laryngeal diphtheria there was no diphtheritic exudation in the trachea, so that the extension of the tube to the seventh ring was unnecessary. In reference to the position of the tube resting against the epiglottis, as in the O'Dwyer method, I would state that the epiglottis folds down and bears first upon the shoulder of the tube, then closes its orifice, but it cannot perfectly close the larynx. Dr. O'Dwyer has had ulceration of the epiglottis with perforation. You might think it would be a great deal worse to turn the tube around, that the pressure would be greater upon the epiglottis, but when I turn the tube around it goes half an inch lower, and the projection of the tube that is supposed to touch the epiglottis does not touch anything, and the mucous membrane is not pressed upon at all. Introducing the tube in the O'Dwyer method it will not go into the larynx; you can push it down and still it can be felt above the larynx, so when the epiglottis folds over, it must necessarily come against the tube. By turning the tube around, sinking it well into the larynx, it goes down so far that in a small larynx you cannot touch it with the finger, it goes down as far as the attachment of the apex of the glottis with the thyroid cartilage. The epiglottis folds down over the larynx, the laryngeal tube is still free below it, resting on the vocal cord, so that it can produce no ulceration of the epiglottis. As to the vocal cords, D. O'Dwyer says that ulceration is rare in that situation. That is because the pressure is slight, and not attended by friction, as in the epiglottis. Northrup says you must press the tube well down into the larynx. In doing this it rests against the epiglottic cartilage and its projection presses back against the arytenoid cartilages, pressing them wide apart

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in the most disagreeable manner. It is like putting the right foot into the wrong boot. It does not fit or rest easy at any point. Turn the tube around and it rests comfortably in the larynx without one point of pressure, the only pressure induced is that of swallowing, which is not sufficient to produce ulceration. I have never had any trouble in introducing the tube except in one little patient, in whom, it seemed to me, the larynx went down to the sternum, and it was with great difficulty that I reached the orifice of the larynx, but when I did finally engage it the tube was introduced readily. To facilitate extraction I have had constructed a cup-shaped depression on the head, instead of the oval convex surface with the hole directly in the summit. With the oval head, unless you strike the aperture itself, you are not likely to find it, as the extractor will invariably glide to the outside of the tube. With the cup-shaped head, partly from the tube being surrounded by the larynx, the extraction is greatly facilitated. My patients have all, with the one exception mentioned, been able to drink fluids; they have been able to drink two or three swallows without coughing. Occasionally there was some irritation; they would drink a large swallow and cough, immediately drink again and then cough, but not one refused to drink. I had one case that did recover. Dr. Waxham performed the operation for me, introducing the tube in the O'Dwyer method. The patient wore the tube nearly two weeks, so long that it took between two and three weeks before the child could again talk, but it did not wear it long enough to get used to swallowing without coughing. It could not swallow fluids at all, and was fed with the greatest difficulty, a part of the time by the stomach tube. The object of the rubber collar, with its valve-like attachment, is, as I understand it, to close the orifice of the tube. Inasmuch as the epiglottis will close the tube by its automatic action of folding down over it, I regard the rubber top as being wholely useless. Not only is it useless, but the valve, standing up in constant apposition with the epiglottis, is a source of additional and continued irritation.—*Cincinnati Lancet-Clinic.*

ANTIFEBRINE IN EPILEPSY.—It is reported that Dujardin-Beaumetz is using antifebrine extensively in the treatment of epilepsy, and that he considers it one of the most powerful moderators of the spinal centres.—*American Practitioner and News.*

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A CLINICAL CASE ILLUSTRATIVE OF THE CORRECT METHODS OF USING THE OBSTETRIC FORCEPS.

By Prof. THEOPHILUS PARVIN, M.D., of Jefferson Medical College.

Now, with reference to the application of the forceps. The instrument was, of course, carefully washed and made aseptic, and the left blade introduced first. There is only one invariable rule in the application of the forceps, and that is that the left blade goes to the left side of the pelvis. This may be epitomized in this way: left blade held in the left hand, and introduced into the left side of the pelvis; everything left but the doctor. With the head lying transversely, the left blade is introduced in the direction of the left sacro-iliac joint. The blade will cause some anterior rotation, so that it fits to the side of the head, and we have an oblique application of the forceps, that is, oblique with reference to the pelvic cavity. But if rotation of the head from transverse to oblique position had not occurred, there would be irregular seizure of the head, the posterior blade being applied to the left side of the occiput, and the anterior to the right side of the frontal bone, and thus the blades would include an oblique occipito-frontal diameter. In this instance, the blades were apparently well applied; but, as it sometimes happens, the branches would not lock. Failure to lock may result from the blades not being directly parallel—they are not in the same plane. Now, if this difficulty occurs, seize the handles, one in each hand, and endeavor, by gentle, not violent, movements to bring the blades directly opposite to each other. But the obstacle to locking may arise from one blade being introduced a little further than the other. Then it is necessary to partially withdraw one or push the other a little further in. If they still will not lock, they must be removed and reapplied.

Having the forceps satisfactorily applied, see that none of the maternal structures are included. Be sure that you have the child's head, and nothing else, Then make a trial pull, to see that the head follows when moderate traction is made, and that the head is not slipping out of the blades, or rather the latter coming off of the former and beginning to emerge from the vulvar opening empty. Having satisfied ourselves that the instrument is properly applied, regular intermittent traction is to be made. Some French authorities hold that moderate continuous traction is less likely to do harm than

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strong intermittent traction. The proper plan is to imitate nature, and as nature acts intermittently in labor, a pain and then a pause, before she renews her effort, so in most cases of forceps delivery, intermittent is to be preferred to continuous traction. In this case the pains were regular, although very feeble, and the traction was made at the time of their occurrence.

A word as to the force to be employed: In order to deliver with the forceps, it is, as a rule, not necessary that the physician should be an athlete. In the majority of cases the traction is to be made only with the forearms. By pulling with the arms extended the force may be made greater. A force of somewhat more than eighty pounds can be exerted in this way, and if the feet are *braced* against the bed, this can be increased to about twice as much; but a pull of ten or twelve pounds, if made in the proper direction, is usually all that is required. With the head at the superior strait, the proper direction of the pull is downward and backward nearly in the axis of the superior strait. The pelvic canal is, approximately, a cylinder closed at its lower end, and with an opening on the anterior wall. Traction must be made in the axis of the cylinder until the head is brought to the floor of the pelvis, and then the head is brought out of the opening on the anterior wall. The two lines of traction form nearly a right angle with each other. Traction is begun in a line pointing downward and backward, supposing the woman is lying upon her back, as in this country she usually is during a forceps delivery, and ended in a line pointing upward and forward. Lord Bacon has said that we command nature by obeying her, and this applies to the directions of the pulling force used with the forceps.

When the head began to emerge from the vulvar opening, Dr. Diller asked me if he should remove the forceps. I said, "No;" and I think that I can give satisfactory reasons for the practice of allowing the forceps to remain. If we go back to the teaching of Hodge we find that he condemns the removal. While I believe that he was right in this, I do not accept the reason which he gave. He said there was such protrusion of the scalp through the fenestræ of the instrument, that when the blades were removed there would be danger of tearing the scalp. Hodge also held that the forceps adds nothing to the circumference of the child's head. If, however, we read Lusk, we find that he states that the forceps does add something to the circumference of the presenting part, and he, with Taylor and others, advises the

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removal of the forceps to prevent tearing the perineum. This teaching is, however, older than the time when Taylor began this practice. It was the teaching of Madame La Chapelle and of some German obstetricians before. I know of no actual observations made to decide whether or not the forceps does add anything to the circumference of the head, though, of course, the plain probability is in favor of Lusk's statement. Dr. Hodge used to dwell upon the compressing power of the forceps, but any compression beyond that necessary to prevent the blades from slipping is unnecessary and injurious; for when the head is seized—as it ought *always* to be, if possible—by the sides, you do not need any diminution of the diameter included between the blades. It is not only not needed, but may hinder the labor, for the more you compress the more you interfere with the molding and the mobility of the head, the normal mechanical phenomena of labor being prevented or hindered by thus destroying such mobility.

The reasons for not removing the forceps when the head is in the position named are these: If the uterine contractions are feeble, possibly the head would not emerge under the influence of the uterine and abdominal action alone, and with the patient under the influence of an anæsthetic, the voluntary efforts may be somewhat lessened. It is not pleasant to have to reapply the forceps after it has once been removed. If, on the other hand, the pains are active, and it is quite evident that nature is able to complete the delivery, it may so happen that while you are busy removing the forceps the head will be driven out by a violent contraction and the perineum be torn. You cannot take care of the perineum and remove the forceps at the same time. Finally, there is no means so admirable as the forceps for directing the head in the axis of the vulvar outlet and of retarding its progress until the vulvar ring is fully dilated. I look upon the forceps not as the enemy, but as the protector of the perineum. Properly managed, it never tears the perineum.—*College and Clinical Record.*

DR. WILLIAMS (*Boston Medical and Surgical Journal*) says he has averted a great many felons by keeping a rag tied loosely around the finger constantly wet with cold water. They must be taken in the earliest stage.

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CATALEPSY IN A MOTHER AND CHILD.

Dr. Van Schoot discusses in a Dutch medical journal a case of convulsive seizures of a peculiar kind in a woman in the seventh month of pregnancy. When he first saw her she was motionless, her face being cyanotic, but her temperature, respiration and pulse normal. She was quite unconscious, and the slightly dilated pupils did not react to light. The arms were fixed at right angles, requiring some force to move the forearms. By means of chloroform all the contracted muscles relaxed, and some hours' sleep was obtained. Afterwards she remembered nothing of the fit, but she stated that all movements of the fœtus seemed to have ceased, and no heart sounds could be detected. These attacks were repeated frequently for a fortnight, the urine being quite normal all the time. Large doses of bromide were given without effect, but some amelioration was produced by sulphate of atropine. Latterly the attacks were associated with considerable movements of the abdominal muscles. Some temporary benefit was obtained by subcutaneous injections of pilocarpine. At the conclusion of a fortnight from the first attack labor came on, a female child being born alive, which, however, died in a week's time, after repeated convulsions similar to those affecting the mother. The mother had no attack till the fifth day (the same day that the child's first attack occurred). After this there was only one more attack two days later, complete recovery ultimately taking place. The author, referring to the diagnosis, is disposed to exclude eclampsia, because, although there were clonic contractions of the abdominal muscles, the main spasm—indeed, at first the only kind of spasm—was tonic. The entire absence of albuminuria, too, tends to exclude eclampsia. Again, epilepsy may be excluded, as after the tonic no clonic spasms occurred, and as the limbs remained fixed in a certain position for one or two hours. He therefore considers that the attacks were of a cataleptic nature, both in the mother and child.—*Medical and Surgical Reporter.*

In the antiseptic treatment of summer diarrhœa Dr. L. E. Holt regards naphthalin and the salts of salicylic acid as the most valuable antiseptics for the intestinal tract (reprint from the *New York Medical Journal.*)

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MINUTES

—OF THE—

THIRTY-FOURTH ANNUAL SESSION

——OF THE——

Medical Society of North Carolina.

CHARLOTTE, N. C., April 13, 1887.

FIRST DAY—MORNING SESSION.

The Thirty-fourth Annual Meeting was held in the Opera House, and was called to order by the Chairman of the Committee of Arrangements, Dr. George W. Graham.

Rev. Mr. J. Y. Fair, of the Second Presbyterian church, opened the session with an appropriate prayer.

Mr. F. Brevard McDowell being introduced by the Chairman of the Committee of Arrangements, delivered the following

ADDRESS OF WELCOME.

Gentlemen of the Medical Society of the State of North Carolina:

Your custom of meeting annually in different portions of the State and of inviting distinguished members of other States to be with you, is a custom founded not only upon pleasure and the amity that should exist between various sections, but upon wisdom and utility besides. By this mode the East and the West, the mountains and the sea, the talent, experience and the active thought of the entire State are brought together. The Convention is not the narrow gauge of a neighborhood, but the broad gauge of a State or continent. Provincialism is abolished, a relaxation of harassing home

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cares ensues, and the progress that stops not at county or State lines, but whose range, like the eagle's, is as wide and free as the air, holds at least a momentary sway and gives a healthy impetus to science and the profession.

I have been selected by the Charlotte physicians to deliver you an address of welcome. Why I was chosen I know not, for I have been well so long and sick so little, that I have actually been ashamed to look a Charlotte doctor square in the face. But I recognize the fact that the doctors will claim us all, sooner or later. There are three things in this life we cannot escape—death, taxation and the doctors. The doctors are with us at the beginning and at the end of our days. They usher us into existence, and when the jig of life is up, when the hard fight is fought and the sunset flickers on the wall, they stand by our side and ease our pain. The minister offers a silent prayer, and faith and charity, the two handmaidens that minister continually around the mercy-seat, cheer us with hope that we shall cross the death-flood and rest beneath the shadow of the further shore.

An old woman's idea of a great man was one "who was careful of his clothes, who could read the Scriptures without spelling the words, who didn't drink spirits and who could eat a cold dinner on a wash day to save the women folks trouble." Our idea of hospitality, like her's of a great man, is primitive, but it is genuine. We do not stucco a man all over with conventional etiquette, we simply tell the stranger we are glad to see him, and we mean it. Doctors are always welcome, especially when they charge nothing for their visits. Our homes, gentlemen, are open to you—we invite you to share our board and partake of our hospitalities, to drive around our beautiful city and inspect her creditable progress and improvements, view the gold mines around us, admire our peerless women and rejoice with us in the history of a liberty-loving and progressive people and of a great and glorious ancestry.

Should I run wild with the love of our favorite oratorical theme—should I inadvertently speak of the 20th of May, of the Mecklenburg Declaration of Independence, or mention the names of Nathaniel Alexander, Dr. Ephraim Brevard, General Graham and others too often, I will deem it an especial favor if you do not bring out your chestnut bells and ring me down.

There are two things new under the sun—a doctor who will take

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his own physic and one who will prescribe for himself when sick. They evince the same abject fear that the hangman did in Barnaby Rudge when brought face to face with the gallows upon which he delighted to execute so many others.

Considering the labor and learning of the profession, I think doctors are poorly paid; when a man is taken with the cramps he will cry, as did the distressed King Richard, "A kingdom, my kingdom, for a horse;" when hale and hearty he will say, "If the Lord will keep the doctors humble we will keep them poor." Your members appear over the world as do the waves upon the surface of the sea, they are part and parcel of the waters and cover the entire deep; your influence is as coextensive, your profession is coeval with time and history. To your ranks turns the great longing, yearning eyes of humanity for a deliverer—one who will lift them out of the bodily bondage of ills, contagious disease, and carry them safely through the Red Sea of tribulation and land them into a peaceful and painless inheritance. Your calling is a lofty and noble one. He who is the admiration of centuries healed the maimed, the sick and the blind. Barring the sacred ministry none other can so freely enter the innermost sanctuary, approach the holy of holies and handle the golden candlesticks of the altars; you can lift the veil, touch the fringe and almost kiss the hem of the robes of the great Physician on high. The border-land where sanity ends and insanity begins is yours to traverse. The most sacred of all secrets, the family, is yours. You can look, but not with the eyes of the world; you can enter the room, but must stand at the door like Sterns' sentinel angel, with finger upon the lip as a seal that the outside shall never know what happens within. Go on in your glorious work of liberating mankind and alleviating human suffering, and, like the Vestal Virgin, keep the fires of progress bright and burning, and cease not until science shall have gained her grand, her full and her final triumph.

In reply to Mr. McDowell, Dr. Charles J. O'Hagan, of Greenville, said:

The Medical Society of the State of North Carolina, through me, tenders you their heartfelt thanks for the hospitable and generous welcome which the people of Charlotte, through you, have extended to it. I would wish, sir, it was in my power to respond in fitting terms to the handsome and generous things you have said.

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It is not the first time that the Medical Society has been the recipient of the hospitality of Charlotte, and while you are pleased to be somewhat humorous at our expense, still we rejoice that you let us off so much lighter than did our illustrious countryman Zebulon B. Vance. If my recollection is correct, when we came here several years ago, with that inimitable manner which he alone possesses, he placed at our disposal the property, the houses and all other things, if in return we would only spare your lives. If any doubt still exists among the people of Charlotte I hope they may be expelled. We come here with no hostile intention, and we hope and expect to prolong and extend and make wiser and happier the lives of the men, women and children of Charlotte and Mecklenburg county.

Sir, you apologized for alluding to the great men this county is fortunate to possess. No apology is necessary. We feel we stand here upon historic ground, where the Declaration of Independence, which was signed by the great men of this vicinity more than one hundred years ago, was promulgated, which pledged the lives and honor and wealth of the people, and which was so faithfully carried out.

Not alone in the Seven Years' War of the Revolution, crowned by success at last, but at all times and on all occasions, when it became necessary for the people of North Carolina to show their devotion to principle and right, in the forefront stood the sons of Mecklenburg.

I am no stranger to the men of Mecklenburg, though a stranger to many of those present here to-day.

I have seen and shaken the hand of some of my companions in "the late onpleasantness," and hope before we leave I may see more of them. In the meantime the Medical Society of North Carolina tenders you the hand of grateful thanks for your courtesy, and hopes, when we depart from your beautiful city, we will leave no unpleasantness behind us, and will carry away many pleasant memories of your courtesy and hospitality.

Dr. George W. Graham, as Chairman of the Committee of Arrangements, then turned over the gavel to the President, Dr. H. T. Bahnson, of Salem.

Dr. Bahnson, in assuming the duties of his office, thanked the Committee of Arrangements for the eminently satisfactory manner

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in which it had discharged its duties, declared the session formally organized, and instructed the Secretary to call the roll.

As next in order on the programme the President then read his Annual Message.

On motion of Dr. Young the thanks of the Society were tendered the President and his Message referred to the Publication Committee to be printed unabridged.

A motion by Dr. R. H. Lewis, that a committee of three be appointed to report upon the suggestions for the improvement of the Society, as contained in the President's Message, was carried.

It was voted, on motion of Dr. G. G. Thomas, to appoint a committee of three to take suitable action in regard to the names of deceased members that were omitted at previous meetings.

The President stated that the citizens of Charlotte would be heartily welcomed at all the sessions of the Society.

The following committees were announced :

Credentials.—Drs. Joseph Graham, Geo. W. Long and Charles J. O'Hagan.

Finance.—Drs. J. W. Jones, A. G. Carr and Robert Gibbon.

President's Message.—Drs. R. H. Lewis, John McDonald and C. M. Poole.

Obituary.—George G. Thomas, Robert S. Young and W. B. Pritchard.

Dr. R. H. Lewis introduced Dr. Joseph A. White, delegate from the Medical Association of Virginia, and said it gave him great pleasure to welcome Dr. White as a delegate from Virginia.

Dr. White thanked the Society for their kind words and treatment, but it was no more than he expected from the well-known generous hospitality of the Old North State. He not only came as a representative from Virginia, but also in the official capacity as chairman of a committee to carry out one of the suggestions in the President's Message—to draw nearer together the profession of our Southern States. He was the chairman of a committee appointed to organize an inter-State association between the States of Virginia and the Carolinas. He hoped that the project would meet with the approbation of the members of the Society, and that they would take some action towards carrying out this project by the appointment of a committee for that purpose.

The President welcomed the gentleman from Virginia in his dual

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capacity, and hoped that he would take part in the proceedings of the Society.

Dr. White announced that the next meeting of the Virginia Medical Association would fall immediately after the meeting of the International Medical Association, and that there would be present at that meeting many men of fame. He invited any and all members of the Society to be present, assuring them a pleasant and profitable visit.

The regular programme for the morning session being exhausted, the Committee on Credentials presented the names of the following physicians as eligible to membership:

H. W. Lewis, Jackson; James F. Beall, Linwood; R. A. Patterson, Aurelian Springs; R. H. Stancill, Margarettsville; S. Westray Battle, Asheville; Joel Hill, Arcadia; Joseph M. Davidson, Mountain Island; Wm. H. Bagwell, Pactolus; Joseph Howell Way, Waynesville; Robert J. Brevard, Charlotte; J. E. Caldwell, Caldwell; James M. Gallagher, Washington; D. O'Donohue, Charlotte; J. M. De Armond, Mint Hill; J. H. Bingham, Garrison, Mecklenburg co.; W. B. Henderson, Mecklenburg co.; H. L. Abernethy, Hickory; A. J. Hoover, Lincolnton; W. D. Pemberton, Stanley co.; Ogden D. King, Wilmington; J. H. M'Duffie, Moore co.; S. S. Daniel, Hertford co.; A. W. Goodwin, Raleigh; R. L. Gibbon, Charlotte.

The following report was submitted by the Board of Censors:

The Board of Censors respectfully report that the Buncombe County Medical Society, through its Board of Censors, have presented Dr. John Henry Williams, of Asheville, upon the charge of unprofessional conduct and false representations.

We have decided upon a precedent established by the action of former Boards of Censors of the Society, that we are not called upon to consider any issues which do not directly affect this Society. And, in accordance with this decision, we have to arraign Dr. John Henry Williams upon the specification made in the report of the Board of Censors of the Buncombe County Medical Society, charging him with making a claim to graduation from the Jefferson Medical College of Philadelphia, and that he did so register himself when he signed the Constitution and By-Laws of this Society at the meeting in Asheville in 1881.

It is in evidence that Dr. Williams' name does not appear on the

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list of graduates of the Jefferson Medical College, and William L. Leffman, the clerk of that institution, writes that he cannot find the name of Dr. Williams as a graduate of that school, but he says that in the year 1876 Dr. Williams did matriculate. Dr. Williams, in reply, says that he did not intend to register himself as a graduate of the Jefferson Medical College, but simply as having been in attendance upon lectures there—his intention was to give the name of the college at which he had matriculated. He has written to the Secretary of the Society asking him to erase so much of his signature as related to the Jefferson Medical College, upon the ground just set forth. But Dr. Baker replied that he had no right to alter or amend the record, as it was the property of the Society. We therefore ask the decision of the Society upon the matter—whether Dr. Williams has been guilty of such a misdemeanor towards this Society as to require any discipline looking towards suspension or expulsion, or whether his confession that he signed the roster of the Society in ignorance of the record he was making shall stand as an offset to the charge. All the other matters coming before us in this issue between Dr. Williams and the Buncombe County Medical Society, we shall return to them for settlement, as we have decided that they concern the local Society, and not the State organization.

Respectfully,

W. J. Love,
G. G. Thomas,
W. W. Lane.

The President asked that the Society take some action towards the disposition of the report. Dr. Thomas thought the report could not be accepted without some action of the Society. He said that Dr. Williams had explained that his signature on the books was intended only to convey the impression that he was a matriculate, and not a graduate of the Jefferson Medical College.

Dr. John McDonald moved that, as Dr. Williams had made this declaration that what he had done was merely a mistake, that he be allowed to have erased from the registration such part of his signature as was misleading. Carried.

There being no further business before the Society, the meeting was declared adjourned till 3½ o'clock P. M.

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First Day—Afternoon Session.

The meeting was called to order at 3½ o'clock.

Dr. Long moved that a committee of five be appointed to consider Dr. White's suggestion of the morning session as to the establishment of an Inter-State Medical Society. Carried.

The Chair announced the presence on the floor of several distinguished gentlemen, and requested Dr. W. J. Jones to escort Profs. W. C. Dabney, J. J. Chisolm and L. McL. Tiffany to the stand and introduce them to the Society. As these gentlemen advanced to the stand they were greeted with applause.

Dr. Jones escorted these gentlemen to the rostrum, and in presenting them to the Society offered very complimentary and pleasing words or introduction, for each of them. He promised the Society that they would contribute to their store of knowledge and give them much profitable food for thought and mental assimilation.

The Chair announced the presence in the hall of Prof. J. S. Dorsey Cullen, of Richmond, and requested Dr. G. G. Thomas to introduce him to the Society. Dr. Thomas performed this duty in a graceful manner, adding that no words of commendation from him could add to the distinguished gentleman's reputation.

Dr. Summerell stated that he had received a letter from Dr. Crump, of South River, stating that on account of sickness he was unable to be present, and asking to have his paper referred to the Committee on Publication.

On motion Dr. Crump's paper, he being the chairman of the Section on Materia Medica and Therapeutics, was so referred.

Dr. Cheatham, representing the committee to award the Pittman Prize, said by an oversight the essays had not reached him, and asked that he be allowed to examine the papers after the adjournment of the Society and publish the Committee's decision in the next issue of the North Carolina Medical Journal.

Upon motion Dr. Cheatham's request was granted.

On a call from the President for reports of chairmen of sections, Dr. E. M. Littlejohn read a report on "Obstetrics and Gynæcology."

Dr. W. J. Jones, in moving the reference of Dr. Littlejohn's paper to the Committee on Publication, spoke in terms of praise of the production, and said that the interest of the Society would be served in the proper direction if these essays were the starting point of a discussion which shall bring out all that is in the possession of

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the members of the Society on the points raised by the author. He then spoke at some length on the issues made by the germ theory.

The President said it was the intention of the Society to have full discussions on these subjects, and reiterated Dr. Jones' request by asking Prof. Dabney to open the

DISCUSSION.

Prof. Dabney said there was very little he could add to the paper which had been read. One or two practical points might be brought to the attention of the Society—one in respect to what is called puerperal septicæmia. That very many of these cases are due to the germ there can be no manner of doubt, still there were cases in which, as soon as all decomposing matter was removed, there was no further trouble, and the fever immediately disappeared. Now truly this would not occur were the symptoms due to a septic germ. The poisoning in these cases is due, not to the presence of germs, but to the presence of decomposing animal matter commonly known as ptomaines—these leucocytes of decomposition. The symptoms in many cases are the same which can be produced in the lower animals by the introduction of ptomaines under the skin. This Dr. Dabney designated puerperal toxæmia, and said that a removal of the exciting cause, generally filth and a want of care for the person of the lying-in woman, would relieve the patient, but this would not obtain when the woman had become the host of the germs which caused the outbreak of puerperal septicæmia, and which required alike local and systemic treatment. Is there no germicide which will destroy these germs and change the condition of the patient? So far as I know there is none which can be administered of sufficient strength to destroy the germs which will not also destroy the life of the patient. What can be done practically? The first point is to abolish the circumstances which favor the development of the germ—to have a strict regard for cleanliness. This is by far the most important point. In other cases of threatening symptoms followed by fever, it is wise to see that there is do decomposing matter in the vagina or in the uterus. It may be a case of ptomaine poisoning. But suppose it is not that, but a genuine case of septicæmia? A want of cleanliness favors the production of germs. He thought there was nothing like injections to remove this decomposing matter, and favored the use of bichlo-

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ride of mercury. There are instances of poisoning by injections of corrosive sublimate, but they are few, and he has never known one where the solution was as weak as 12-000. From his experience with injections into the pleural cavities, he thought as efficacious results would be obtained from iodine. He thought it not desirable in country practice to use such extreme antiseptic precautions as were suggested by Dr. Thomas several years ago; but it is necessary to remove every particle of dirt and blood, at least from the external genitals of the woman, for it is there that these germs begin their work.

Prof. Tiffany said it was eminently improper for him to speak on an obstetrical subject. Something had been said about abdominal surgery, but he denied that this belonged to obstetrics, but to surgical gynecology. He thought it necessary to recognize the fact that we do not know everything. We are now in the midst of our study on bacterial pathology and are not yet perfect. There is so much opposed to one view and the other it is not possible to be sure as to any at present. If he were asked the most potent means of avoiding this enemy, he would say "a good nail-brush and soap and water." The first thing is to clean the doctor and then clean the patient. He mentioned the success in the treatment of wounds in the mountain regions far removed from large cities, and the experiments which proved the entire aseptic condition of the air at sea. Be sure that the hands are clean before the operation. The surgeon should operate with sleeves rolled up and his arms washed to the elbows. He should see that the person of his patient is thoroughly cleansed. Absolute cleanliness is of course an antiseptic condition. A germicide does no harm, but first of all comes soap and water. All vessels and instruments to be used should be thoroughly cleansed before an operation. He mentioned the importance of the use of hot water, not only to overcome shock, but to wash out from the cavity any germs which may have found entrance. In regard to the best germicide, he believes that bichloride of mercury holds that position. Ether or oil of turpentine will remove the oil from the skin, which soap and water will not entirely accomplish, and his preference is for turpentine. He thinks that all antisepsis, with our present knowledge, can be obtained from soap and water, the nail-brush and the bichloride solution.

Dr. Chisolm said the part of surgery in which he is engaged

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would seem entirely unconnected with the subject in hand. But he explained that there was a connection, and that this micrococcus was the connecting link. One of the most common of eye troubles, and which is placed to be a most common cause of blindness, is the entrance of a germ into the eyes of the child from the vagina of the mother. After a few days it creates an ophthalmia, which, if allowed to go on, results in the loss of the eye. It is an established law in some hospitals that every child, immediately after birth, should have distilled into its eyes, whether ophthalmia was suspected or not, a solution which will destroy any bacillus capable of causing a destructive inflammation. The effect of this protective system is most marked. He said that in eye work the surgeon is bound to be cleanly, for the instruments are very delicate and must be kept clean to be in good order. A very weak solution, not strong enough to produce irritation, is capable of destroying the germ.

Dr. Cullen said in regard to puerperal fever you find many cases occurring in persons on whom the antiseptic treatment was rigidly practised, and in others where it was not used at all. For the past fifteen years he has always injected the vaginal cavity, and, in anything like metritis, the uterine cavity, with an antiseptic. He has used vaginal injections for several years, and has had but one case of puerperal fever in two and a half years. He does not touch the vaginal canal with the hand after the child is born, but washes the vulva with the bichloride solution. He thinks that an immense amount of puerperal fever is caused by bacteria carried into the uterine cavity by the hand. Practicing physicians cannot always surround the woman with these precautions against bacteria, but they can best protect her by washing their own hands. He attributed to antisepsis the great reduction in Germany in deaths from puerperal fever. He urged his hearers to see that everything is clean, and he ventured to say there will be very little puerperal fever, whether injections are used or not, if in addition to cleanliness the hands are kept out of the vaginal canal.

On motion Dr. Littlejohn's report as the chairman of Section on Obstetrics and Gynæcolgy was referred to the Publication Committee.

Dr. Graham, for the Committee on Credentials, reported the names of Drs. H. H. Dodson, Milton, N. C., and W. L. Crouse, Crouse, N. C.

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On motion the report was received.

Dr. W. J. Jones stated that he had a paper from Dr. J. D. Roberts of Goldsboro, entitled "Insanity in Its Earlier Stages." He said Dr. Roberts' duties had prevented him from being present, and moved that the paper be referred to the Publication Committee.

It was so referred.

An invitation from the Charlotte Pleasure Club for the members of the Society to participate in a German was read by Dr. Hays.

On motion the thanks of the Society were tendered the Club and the invitation accepted.

Adjourned till 9 P. M.

First Day—Evening Session.

Meeting called to order by the President at 9 o'clock.

Pursuant to the order of business Dr. Geo. Gillett Thomas, of Wilmington, read the Annual Essay, entitled "Hepatic Stimulants and Cholagogues."

On motion of Dr. McDonald, Dr. Thomas' elaborate and instructive paper was referred to the Committee on Publication.

The President announced the following committees:

Nominations—Drs. J. J. Summerell, W. J. Jones, W. H. Whitehead, A. G. Carr and J. P. McCombs.

On the Proposition of Dr. White from the Virginia Medical Society—Drs. W. T. Cheatham, R. F. Lewis, Geo. G. Thomas, Simmons B. Jones and H. B. Weaver.

The Secretary read a communication from Dr. John A. Pollock tendering his resignation as a member of the Society.

The Treasurer stated that Dr. Pollock's dues had not been paid up to date, and the Secretary was instructed to inform Dr. Pollock of this delinquency, and that when his dues are paid his resignation will be accepted.

President Bahnson stated that he had received a paper from Dr. Cornelius Kollock, President of the South Carolina Medical Society, containing a very interesting account of a penetrating gun-shot wound of the abdomen, involving one or more folds of the intestine. He said he had put the paper in so safe a place that he overlooked it in leaving home, and asked to have it referred to the Publication

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Committee, and also that the thanks of the Society be tendered Dr. Kollock for his contribution. It was so voted.

Dr. Thomas stated that Dr. W. Gill Wylie, of New York, had intended being present at the meeting, and had prepared a paper entitled "A Substitute for the Pessary."

The Secretary had just received a telegram from Dr. Wyley stating his inability to be present, but that the paper would be sent.

Dr. Thomas moved that the paper be referred to the Publication Committee if it did not arrive in time for its reading before the Society adjourned. It was so ordered.

The President read a telegram from Dr. Battey, of Rome, Ga., stating that he would not be able to make his promised visit to the Society.

The meeting adjourned till 10½ o'clock to-morrow morning.

THURSDAY, SECOND DAY—MORNING SESSION.

The meeting was called to order at 10½ o'clock by the President.

Dr. J. W. Jones, for the Finance Committee, made the following report:

The Committee on Finance report that, having carefully examined the Treasurer's books, they find:

Balance on hand, May 18, 1886	$457 17
Amount collected from members	479 00
Total	$936 17
Bills paid per vouchers	502 20
Balance on hand	$433 97

We recommend the assessment of $2.00 per capita, and the same salary to the Secretary and the Treasurer as before, to wit, to the Treasurer, $50; to the Secretary, $100.

J. W. JONES,
ROBERT GIBBON,
A. G. CARR.

On motion the report was accepted, and the committee discharged.

Dr. Joseph Graham offered the following report from the Committee on Credentials, and on motion the report was received:

Drs. James M. Dunlap, Ansonville; R. W. Tate, Greensboro; David

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McBryde, Maxton; J. D. Croom, Maxton; E. C. Register, Enochville; W. C. Ramsay, Monroe; Alpheus Fields, Kinston; Alexander Capehart, Roxabel; J. G. Christian, Montgomery county.

Dr. O'Hagan stated that Dr. H. O. Hyatt was desirous of renewing his connection with the Society. He said that several years ago Dr. Hyatt had offered his resignation and it was not acted upon, some of the members thinking that he might see reasons for changing his intention. He did not, however, and when his resignation had been sent in to each of the next two meetings, some member said that he could not resign because his dues were not paid, and moved that his name be dropped from the roll. While such a record may appear on the books and is technically correct, it is, nevertheless, morally unjust. He moved that Dr. Hyatt be reinstated on the payment of his dues.

The motion was seconded by Drs. Satchwell and McDonald, both of these gentlemen speaking in complimentary terms of Dr. Hyatt.

The President asked if this matter was brought up on Dr. Hyatt's request, stating that while he was willing and desirous that Dr. Hyatt should return to the Society, he was unwilling for the Society to voluntarily invite him back.

Dr. O'Hagan explained that it was done at Dr. Hyatt's earnes request.

Dr. Haigh stated his understanding of the matter to be only an expression by the Society of its willingness to receive Dr. Hyatt as a member, not that it should make him a member.

Dr. G. G. Thomas called attention to the fact that the motion was for the *reinstatement* of Dr. Hyatt, and not for his *election* to membership.

Dr. Carr thought Dr. Hyatt could not join the Society without being present and signing the Constitution, and moved to amend the motion to that effect.

The Treasurer explained that the record shows that Dr. Hyatt resigned in 1879 and was reinstated in 1882 on the payment of $5.00.

Dr. Thomas asked if this last amendment, if adopted, is equivalent to a ruling that when a member is dropped for the non-payment of dues that he is to sign the Constitution before he can be again known as a member?

Dr. McDonald thought it was the intention of the motion that the Society only express its willingness to receive Dr. Hyatt back into its membership.

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Dr. Long thought Dr. Hyatt occupied the same position as any other physician in good standing who was not a member of the Society, and thought that his name should not be acted on in this way, as the Society is supposed to be always willing to receive a physician in good standing. He thought Dr. Hyatt's name should come through the regular channel of the Committee on Credentials.

Dr. O'Hagan then called for the question on his motion, which was offered in the following language: "Moved that Dr. H. Otis Hyatt be reinstated to membership in this Society on making a personal appearance before it and signing the Constitution and By-Laws."

The motion, as thus put, was carried.

Dr. Payne requested the Committee on Nominations to observe the golden rule of rotation in office, and not nominate him as Treasurer for the ensuing year. He thanked the Society for courtesies shown him.

The next order of business being the discussion on subjects previously announced, Dr. W. P. Beall, appointed as Leader of Debate, announced as the subject for

DISCUSSION

"Are the Dangers of High Temperatures in Acute Diseases Overestimated?"

He said in all medical progress there invariably springs up theories, and these theories are at once seized upon by workers who endeavor to establish or disprove the theory, and out of all this work grows the crystalization of certain theories which are received and accepted, or it falls to the ground and is no more remembered. Among these theories is the danger of high temperature in acute diseases.

Fries in 1853 or 1854 popularized the idea that the application of cold in fever was a valuable therapeutic remedy. He was an enthusiast, and claimed that it was almost a universal panacea, and as time went on he became more and more pronounced in the application. Then came Liebermeister, with quinine, and also recommended Fries' treatment, but if he were restricted to the use of one he would take quinine. Following that idea our patients in acute diseases have been cinchonized as soon as the temperature has gotten beyond 101° or 102°, and the idea seems that the temperature is the one thing to be considered in all diseases, and if that can be kept down other symp-

d be regarded as of minor importance. He thought that a

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healthy reaction was springing up in this matter of reducing temperature at all hazards, and the fact is being admitted on all hands that fever itself is not a disease—it is merely one of many symptoms. He thought that the experience in this country has shown that many cases of typhoid fever and others, in spite of cold baths and quinine, have ended fatally—or should he say, on account of these agents—and that relapses have become more common since this antipyretic treatment has come into vogue. The existence of so many antipyretics shows they are all unsatisfactory. He thought we were losing sight of the fact that the fever is not the disease. Fever is deemed now, he believed, to be a neurosis, and the so-called germs of disease are considered the primary cause of all acute troubles and the fever is only one of these symptoms. The experience of all of us shows that one patient will bear a temperature of from 101° to 104°, and will make a good recovery with or without antipyretic treatment, while in another much more dangerous symptoms manifest themselves with the same temperature range and treatment; yet the former should be considered the more dangerous case. In a recent discussion in the New York Academy of Medicine, Dr. Loomis and numerous other lights of that Society arrived at the conclusion that antipyretic treatment as a means of curing disease is a failure, although they did not state it in such absolute terms. When called to see a case of typhoid fever, for example, if we lose sight of the fact that the high temperature may be due to the excitement of the system brought on by disease germs, and pour into the patient quinine in large d ses, we do harm. Quinine in antipyretic doses is a heart paralyser, and we run great danger in giving these large quanti ties. Antipyrin, according to Dujardin-Beaumetz, destroys the blood corpuscles, and, while the most harmless of antipyretics, checks secretion, cutaneous transpositi(n and is apt to do more harm than good. The comfort of the patient may be enhanced by the use of these remedies, but he objects to their indiscriminate use. We are tending too far towards the extreme in the use of antipyretics. In ordinary acute disease by keeping the emunctories active, especially the kidneys, we can attain a more satisfactory condition for the patient than will ensue by temperature reduced by medicines.

Dr. Bullock mentioned the case of a lady who died in his house from typhoid fever, whose temperature, notwithstanding enormous doses of quinine continued to rise and increased after death, until, fifteen minutes after breath had left the body, it reached 106¾° F.

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Dr. O'Hagan thought that the hyperexia in acute diseases was an important point to be combatted. He defined pyrexia as being a temperature ranging to 108° F.; anything above that he would class as hyperexia. This matter has received much attention of late years, and the general line of thought has been to localize the origin of excessive heat in the nervous centers, the pons and medulla oblongata being the nervous center of heat production. In all these diseases we find that death takes place at the heart from paralysis, and that paralysis is produced, to a great extent, by the hyperexia, and we must combat that fatal result. He did not approve of the extreme treatment of the German physician who plunged the soldiers into baths of a temperature of 30 or 40°. He had read Liebermeister on quinine as an antipyretic, but that would not do here. There is vast good to be accomplished by holding the pyrexia within the danger line. You diminish the tendency to death by keeping the fever within this point. When the great London physician sat by the bedside watching the temperature fall without medicine, he found his patient got well. That case of pyrexia did an inestimable service to the profession. He proved that nearly all these diseases run a definite course. The deduction from this was that all physicians ought to do something to sustain life and prevent any symptoms from assuming such dimensions as will cause changes in the body which will be dangerous to life. He has never seen any benefit from heroic doses of quinine, but has seen much harm. He thought there was sometimes a vast amount of good to be derived from water. The brain suffers from the pyrexia, then the extraordinary tension and effort by the heart causes danger of cardiac paralysis and thereby death. One of the most important things is to preserve that organ in its integrity. When the temperature is within 103 he avoids physic as much as possible and keeps it within this limit, letting the disease run its course, for this it will do. We know that antipyretics will not abort the fever, but they will keep it in bounds. He favored the application of water to the outside of the body. In regard to the temperature rising after death, he could not give a correct answer, but knew it to be a fact. He mentioned a case of typhoid fever which kept at a temperature of 108° for several days, and recovered in spite of him.

Dr. Cullen mentioned the case of a patient in which the temperature remained at 107½ for forty-eight hours. There was treatment

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neither by cold bath nor by quinine. Said that he often had the temperature in surgical operations to reach 105 or 106°. For a long time he forbade the use of quinine in typhoid fever. Mentioned the case of a boy fourteen years old in which the fever held on for three weeks with temperature at 104 or 105. Gave him antipyrin very cautiously in eight-grain doses, warning the mother to notice if he had sweat and rapid pulse. He was soon sent for again, the mother saying he broke out with a profuse sweat shortly after his departure, and she was afraid he would die. Found him in a cold perspiration, pulse almost gone and lips blue. Used hypodermic injections of whiskey to bring him round. He did not think you could abort the fever with cold water, but you can keep it down. What is gained by keeping down the temperature? If you gain a respite of only twenty-four hours, it is valuable. You excite a typhoid fever patient by putting him into the bath. He always sponges his patient. It has a soothing effect on the nervous system, makes the patient passive, puts him to sleep and does as much good as a cold immersion in water at 68° or lower.

Prof. Dabney said he was fully in accord with Dr. O'Hagan. He thought that fever may be due to two chief processes—that is, an excessively high temperature—to defective heat loss or to excessive heat formation. Now, it is rendered certain by the experiments of late years that in the vast majority of cases of hyperexia there is an excessive formation of heat, and that this is due to oxygenation. Why? Because these experimenters weighed carefully the amount of urea discharged, and also estimated the quantity of carbonic acid gas and found there was an increased amount of both. It could be due only to excessive oxygenation. So our treatment should be, in those cases where the skin is bathed with sweat, showing that the heat loss is abundant, to give remedies which will check the formation of heat. First, as to the danger of hyperexia. He has no doubt that a temperature over 103° calls for some treatment. He considered pyrexia to be below 103°, and anything above that hyperexia. In these cases of hyperexia remedies are needed. He has given antipyrin several hundred times—a good many times in his own family, and has seen a single case of collapse. Mentioned the case of a lady who had puerperal toxæmia. Gave the dose recommended by Dulany of thirty grains, and told the nurse if, at the end of one hour the temperature remained at 105, to give an-

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other dose of 30 grains. Nurse gave second dose without taking temperature, and on returning he found it at 95, with pulse 40. This case ended favorably. The dangers of collapse are slight. This is the only antipyretic which does not produce cardiac failure. Parenchymatous degeneration of the heart muscle is not due to high temperature, but there is no question that this hyperexia tends to cause heart failure. He has tried quinine, given in large doses, but was not satisfied with the effects. Has tried salicylic acid, but of all antipyrin has been the most satisfactory. The dose of 30 gr. + 30 + 15, as recommended by its great champion, Dulany, is too much. Fifteen or twenty grains, repeated in one hour, will almost invariably reduce the temperature two or three degrees and keep it down for twelve hours. Has never seen it kept down under antipyrin twenty-four hours, but has for twelve hours time and again. His rule has been to give it in 15 or 20 grain doses whenever the temperature gets above 103°. He has not had much experience with cold water. Has tried the cold sponging and likes it exceedingly. He tried wet pack in the case of a young lady found unconscious in bed with a temperature of 109°. On using the catheter he found a small quantity of highly albuminous urine in bladder. She was put in wet pack, but died in two or three hours. When you lessen the calibre of the blood-vessels in the skin you throw more blood on the internal organs, thereby augmenting the danger of hæmorrhage from the bowels, and this he regarded as an argument against external use of cold water. He said he had found antipyrin valuable as a styptic. It lessens very much the danger of hæmorrhage. He does not use antipyrin till the temperature reaches 103°. There is no hyperexia till that point is passed; below that the fever is attendant upon many diseases.

Dr. D. B. Frontis asked if we cannot use some measures for reducing the temperature which will have some therapeutic effect other than that. He did not think it best to treat hyperexia for itself alone. So far as known to him no other therapeutic effect is claimed for antipyrin than the reduction of temperature. But there are two classes of cases where it has other effects. In the hyperexia of malarial fever antipyrin contracts the vessels of the viscera more than the peripheral vessels. He thought for that reason it would give good results in that disease. He spoke of the hyperexia from indigestion. In this we may relieve the intestine, or think so, and

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go as far as we can in counteracting that trouble, and yet the temperature remains high. One full dose of antipyrin will reduce the temperature, and probably that will be the last of it, since the cause has been removed. It has a valuable effect upon the nerves and nerve centers. He does not think it fair to consider quinine only as an antipyretic. It has, unquestionably, a therapeutic effect as an antiseptic, and it has a controlling power over inflammation whenever and wherever it exists. He has been using antifebrin for the past three months, and draws the conclusion that it does not act so quickly as antipyrin, but is far safer. He has never had any alarming effects in chills. It produces a good deal of perspiration, but it comes on slowly. When the temperature rises again we do not have the initiatory chill.

Dr. Booth called attention to two facts in relation to disease—one, that it is the intrinsic tendency of every animal economy to throw off disease; another, that the destructive metamorphosis comes on more rapidly in a high temperature than in a low one. In the treatment of typhoid fever if we will keep the temperature down and prevent this destruction and sustain our patient, he will get well. It has been the custom to treat typhoid fever by supporting the patient, preventing excessive diarrhœa, and thereby lessening the risk of perforation of the bowels, etc. Recently we find we can lessen the duration of that disease by giving antipyrin. He believes quinine in typhoid fever does a great deal of harm. The duration of the disease is four, five or six weeks, but the administration of proper doses of antipyrin will shorten this time. He believes he has aborted many cases of pneumonia with antipyrin. The main point he wanted to make was that in cases where we do not know what causes the trouble, if we sustain the patient and keep the temperature down he will get well ordinarily.

Discussion was here postponed to give place to the conjoint session with the North Carolina Board of Health.

Dr. Graham introduced to the Society Dr. McAden, who had come as a delegate from the Druggists' Convention.

Dr. McAden stated that at the last session of the State Pharmaceutical Association the question was raised as to the best plan to prevent druggists from prescribing for patients—that it was trespassing on the domain of the physician. In that discussion a

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resolution was offered and a committee appointed to present it to this State Convention.

The resolution is as follows:

Resolved, That T. C. Smith, L. R. Wriston and J. H. McAden be appointed as a committee to wait on the Medical Convention at Charlotte, next year, and request that body to discourage the practice on the part of physicians of selling medicines—thus encroaching on the domain of pharmacists and affecting their business injuriously. This Association will endeavor to prevent its members from interfering in any way with the practice of physicians.

In presenting the resolution he said that the committee, who were all residents of Charlotte, had no complaint to make against any physician there; each physician and each druggist stands legitimately upon his own territory.

On motion of Dr. Summerell, the Chair appointed a committee of three, consisting of Drs. R. L. Payne, W. J. Jones and S. D. Booth, to take into consideration this resolution and make a report to this Convention at a future hour.

The Secretary read an invitation from the North State Club for the members of the Society to visit their rooms.

CONJOINT SESSION

with the North Carolina Board of Health was called to order by Dr. J. W. Jones, of Tarboro, President of that body.

As first in the order of business, Dr. Jones read his Annual Address.

Next in order was the election to fill the vacancies caused by the expiration of the terms of Drs. R. H. Lewis and R. L. Payne.

It was voted that these vacancies be filled one at a time, and Dr. O'Hagan put in nomination Dr. R. H. Lewis, of Raleigh, saying that Dr. Lewis had been one of the hardest workers and most useful members of the Board of Health.

Dr. Lewis was unanimously elected by a rising vote.

Dr. Long nominated Dr. R. L. Payne, and the nomination was seconded by Dr. Joseph Graham.

Dr. Payne was unanimously elected to succeed himself, but rose and said that while he felt highly honored by the action of the house, he would ask to be allowed to decline. He had been a member of the Board for eight years, and asked that some one younger and more capable should be put in his place.

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Dr. Payne's resignation was accepted with regrets, and Dr. H. T. Bahnson, of Salem, being put in nomination was unanimously elected to the position.

The President announced that there were two or three interesting papers to be read, and at his request Dr. S. S. Satchwell read a paper on "The Drinking Waters of Eastern North Carolina."

Dr. Lewis rose to make an acknowledgment of the services of Mr. Henry E. Fries and Dr. J. H. Stancill, members of the last General Assembly, in looking after the interests of the profession during the last session of the Legislature. He wished the Society to know to whom it was indebted for the safety of the laws affecting its interests.

It being now the hour for the noon recess, on motion of Dr. Graham the Conjoint Session adjourned till 3½ o'clock P. M.

SECOND DAY—AFTERNOON SESSION.

The Conjoint Session was called to order by Dr. Jones, President of the Board of Health.

Following the order of business from the morning session, Prof. W. G. Simmons, of Wake Forest, read a paper on "Illuminating Oils."

Dr. McDonald moved that Prof. Simmons' paper be referred to the Publication Committee, and that a committee be appointed to take steps looking to suppressing the sale of these low-grade oils in the State. Carried.

Dr. Haigh said that at the last meeting of this body, when an uncompleted paper was read on this same subject, he suggested that our people ought to be protected against these low-grade oils by the publication of these facts. This was not done on account of the incompleteness of the paper. It seemed to him that the time had now arrived when some publication of that sort should be made. Our Board of Health must show the people that we are working for their good. Here is the fact of the daily use of absolutely dangerous oils by hundreds of thousands of our citizens. With this knowledge before us, is it not our duty to publish these facts? The names of these oils, of the manufacturers and of the sellers should be published, that the people may know what they are doing. It is the only way in which an attack can be made on these

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manufacturers in the absence of a law, and we would have to wait now two years nearly before such a law could be created. He moved that, as far as it is possible, these facts be published in the newspapers.

Dr. McDonald thought when these facts are brought before the Legislature in the proper way something will be accomplished.

Prof. Simmons stated that the samples had all been obtained from retail dealers, and he was unwilling to hold the manufacturers or perhaps the wholesale dealers responsible unless there was some way by which the identity of the oil could be traced back. The retail dealers could only trace the oil back one step, viz: to the wholesaler. He thought the proper place to apply pressure was on the sale of the oils.

Dr. Haigh thought if our State chemist could publish to the world the analyses of different fertilizers, with their brands, he saw no reason why these facts, which are of so much more importance, should not be.

Dr. R. L. Payne, of Lexington, read a paper entitled "Some Preventable Causes of Disease Among Females."

On motion of Dr. Graham, Dr. Payne's paper was referred to the Publication Committee.

On motion the Conjoint Session adjourned.

The Medical Society was called to order, President Bahnson in the Chair.

The order of business was the continuation of the discussion which was postponed from the morning session to give place to the Conjoint Session.

On motion of Dr. Haigh, the time of debate was limited to five minutes for each participant.

Dr. Hays stated that Dr. White, of Richmond, would have to leave for home on the morning train, and moved a suspension of the regular order of business to allow Dr. White to read a paper which he had prepared.

Dr. Graham offered the following report from the Committee on Credentials, which was received by vote:

Drs. J. A. Ardrey, Pineville; D. C. Parris, Hillsboro; J. M. Lawing, Lincolnton.

Dr. Hays' motion was carried, and Dr. White read an able paper on "Reflex Eye Troubles."

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On motion of Dr. Hays the thanks of the Society were tendered Dr. White for his paper, and the paper referred to the Publication Committee.

Dr. Hays said he had prepared and circulated, to some extent, a paper which had been signed by some twenty-five persons, including our prominent visitors. The paper was a pledge on the part of the subscribers to furnish at least one original communication to the NORTH CAROLINA MEDICAL JOURNAL within the next twelve months.

Dr. Long offered the following resolutions:

WHEREAS, The membership of the Society is getting to be so large that, in the present plan of organization, only slight recognition, or none at all, is possible to the great majority of members in the assignment of duties to be performed or offices to be filled; and whereas, it is to the best interest of the Society that some increase in the number of appointments for scientific work during the year should be made, therefore be it

Resolved, That the Society should be so arranged that each member shall be placed in one of the several sections, and the chairmen, as at present appointed, be chairman of these sections.

Resolved, That immediately after the adjournment of each annual meeting each chairman shall select such members as he may see fit to read papers on subjects relating to his section.

Resolved, That each chairman shall notify the Secretary as soon as possible in order that a programme may be prepared and published in advance of the meeting.

Resolved, That a certain time of each annual meeting shall be allotted each section, and all papers pertaining to such section be read at that time.

Resolved, That at the meeting of each section the chairman of the section shall preside with the President.

Resolved, further, That a committee of five be appointed to consider the advisability and practicability of the above changes in the plan of organization, and be instructed to devise suitable regulations for carrying them out, if deemed advisable; said committee to report at the next annual meeting.

Dr. W. J. Jones understood the object of the resolutions to be that a change might be effected in the present unsatisfactory manner of getting reports from the chairmen of sections. He deplored the fact that at this meeting only one report had been read; and if the young members come here a few times and hear only one or two essays read and then referred to the Publication Committee with no discussion—or perhaps read "by title" only, and referred—they will soon lose interest in the meetings and think they had better spend

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their time in a more profitable way at home in attendance upon their patients.

Dr. Graham rose to a point of order, saying the resolutions involved a change in the Constitution and must lay over till another meeting before being discussed.

Dr. Lewis moved that a committee of three be appointed to consider the resolutions as to making such changes as may seem necessary, and report at the next meeting of the Society.

Dr. Lewis submitted the following report of the Committee on the President's Message:

Mr. President:—Your Committee, after carefully considering the admirable address of our President, express the hope that each member of the Society will, after its publication, give it a thoughtful reading and lend his efforts to carrying out the many wise suggestions made therein. They would especially recommend that the following be immediately adopted by the Society:

1. That the NORTH CAROLINA MEDICAL JOURNAL be declared the official organ of the Society; that its editors be *ex officio* members of the Committee on Publication, and that an edition of 800 copies of the "Transactions" be published within sixty days after the month in which the meeting is held.

2. That the Secretary be instructed, by correspondence with some member in each county, to revise the present list of members, and after revision to record the same in the order in which they joined the Society, with the year of admission placed opposite each name, instead of alphabetically, as now.

3. That licensed or otherwise eligible physicians, desiring to unite themselves with us, but who may be prevented from attending in person, be allowed, upon application in writing, to do so upon the endorsement of two reputable members of the Society, one of whom must be present and sign the Constitution and pay the initiation fee for them.

Respectfully submitted,

R. H. LEWIS,
JOHN MCDONALD,
C. M. POOLE.

Dr. Satchwell moved the adoption of the report as a part of the Constitution of the Society.

Dr. Booth thought that portion concerning the admission of members into the Society involved a change of the Constitution

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and would have to lay over. At the same time it could be adopted at this meeting by an unanimous vote. He moved that the report be read and acted on by sections, which motion was carried.

The first clause being read was adopted, only one voting "no." This section did not involve a change in the Constitution.

The second clause was adopted unanimously.

The third clause being read, was amended to read as it appears above, and was then unanimously adopted.

Dr. Graham offered the following report from the Committee on Credentials, which was received:

Drs. Buxton B. Williams, Warrenton; J. C. B. Justice, Leicester; Robert W. Winborne, Barnitz; John L. Ray, Burnsville; John W. Neal, Meadows.

Dr. Summerell, from the Nominating Committee, made the following report:

The Committee on Nominations would make the following report:

For President—Dr. T. D. Haigh, Fayetteville.

Vice-Presidents—Drs. W. T. Ennet, Burgaw; J. B. Dunn, Raleigh; Thomas E. Anderson, Statesville.

Secretary—J. M. Baker, Tarboro.

Treasurer—C. M. Poole, Salisbury.

Orator—S. D. Booth, Oxford.

Essayist—W. C. Galloway, Snow Hill.

Committee on Publication—Drs. Thomas F. Wood, George G. Thomas, Wilmington; W. T. Ennett, Burgaw; J. M. Baker, Tarboro.

Board of Censors—Drs. George G. Thomas, W. J. Love and W. W. Lane, Wilmington.

Delegates to the American Medical Association—Drs. Charles J. O'Hagan, Greenville; E. H. Hornaday, Washington; J. H. Tucker, Henderson; Joseph H. Graham, Charlotte; John Whitehead, Salisbury; Eugene Grissom, Raleigh; T. S. Burbank, Wilmington; J. B. Gunter, Mebaneville; D. B. Frontis, Wadesboro; J. W. Faison, Mt. Olive; John K. Ruffin, Wilson; R. H. Lewis, Raleigh.

Delegates to the Virginia Medical Association.—Drs. W. T. Cheatham, Henderson; R. H. Stancell, Margarettesville; L. J. Picot, Littleton.

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Delegates to the South Carolina Medical Society—Drs. D. W. Bullock, Whitakers; Simmons B. Jones, Charlotte; Robert F. Gray, Winston.

Obituary Committee—Drs. S. S. Satchwell, Rocky Point; W. H. Lilly, Concord; A. A. Hill, Lexington.

Delegates to American Public Health Association—Drs. J. W. Jones, Tarboro; W. D. Hilliard, Asheville; G. W. Graham, Charlotte.

On motion the report was received.

It was voted that the Cons itution of the Society, as amended, be published in the next number of the "Transactions."

On request from the Secretary it was voted to print 250 extra copies of the Constitution for his use in supplying them to applicants.

By request of Dr. R. L. Payne, Dr. A. G. Carr was appointed to take his place on the committee to confer with the druggists.

Dr. Satchwell, as Chairman of the Obituary Committee, asked the members having any information concerning deceased members to send such information to him at as early a date as possible.

Dr. Graham asked permission to exhibit a specimen of the result of the application of the dry earth treatment to the internal surface of the vagina and the general application of this substance in the treatment of other diseases and injuries. He remembered having heard of this treatment while a student in Philadelphia.

Dr. Summerell mentioned having used an earth, manufactured in Baltimore, in his practice at the poor house in his county. He used it successfully in four cases of sore legs which had resisted all other treatment for years. These cases got well in two or three months. Where the sores were excavated the cavity was gradually filled up, and when the granulations appeared cicatrization went on as in ordinary sores.

On motion of Dr. Haigh the thanks of the Society were tendered Dr. Graham for his interesting clinical report.

Dr. Barringer said he had tried it in several cases with perfect result and rapid healing. He had seen the epidermis taken off the skin by an application lying on twenty-four hours. He has had the idea that it is a vesicant and a dessicant. A vesicant will lift up the tissue and leave a fluid serum beneath, but with both combined this serum is absorbed.

Dr. Graham promised to give his experience with this treatment

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more fully, to the profession, through the columns of the NORTH CAROLINA MEDICAL JOURNAL.

Dr. W. P. Beall concluded the discussion on hyperexia, postponed from the morning session, by protesting against the interpretation of the subject by Dr. O'Hagan. His idea was that high temperature in acute diseases was held in too high esteem in comparison with other phenomena—that our attention had been devoted to relieving the high temperature, and not to the seat of the disease, and it was this he wished to call attention to.

Dr. Carr asked the opinion of the Society as to our autumnal fevers They were called by some physicians typhoid, while others classed them as typho-malarial. In the absence of the characteristic typhoid temperature—a regular increase of one degree each day for a week, then remaining for a week at about 104°, the third week remittent in character and the fourth intermittent, he calls it typho-malarial, notwithstanding the fact that some persons disclaimed the existence of such a disease. In these fevers the highest temperature reached will be about 103° or 104°, and this was present at his first visit.

Dr. Long thought these fevers should be classed as typhoid.

On motion the discussion was postponed to the morning session.

The President appointed on the committee to take into consideration Dr. Long's resolutions Drs. G. W. Long, J. M. Hays and P. B. Barringer.

On motion the meeting adjourned till 8½ P. M.

SECOND DAY—EVENING SESSION.

The meeting was called to order by the President at 8½ o'clock.

Dr. T. T. Robertson, of Winnsboro, South Carolina, was introduced by the President, and responded very pleasantly.

The Chair then introduced Dr. J. M. Hays, the orator of the evening, who delivered most acceptably the Annual Oration. Many ladies and citizens generally were present on the floor and in the galleries.

On a call from the President for the report of the Committee on Prize Essays, Dr. R. H. Lewis, from that committee, said the committee had received two essays, one signed "Hannibal;" the other "Medicus." The committee had decided to award the prize to the latter.

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He read a letter from Dr. Charles Duffy, Chairman of the Committee on the Pittman Prize, saying that this essay had been presented in competition for that prize, but the author becoming known to him, they had decided to send it in competition for the Society's prize. It had not reached the committee four weeks before the meeting, but they had decided not to enforce this clause under the circumstances. Upon opening the sealed envelope accompanying the essay, they found the name of Dr. Francis Duffy, of New Berne. He added that the committee regarded the essay as a most excellent production, and thought the Society would be interested in hearing it read. He said Dr. Duffy had requested him to say that, instead of taking the prize, he would ask to offer it again as a prize for the best essay on "The Treatment of Hæmorrhagic Malarial Fever," to be presented at the next meeting of the Society. He will make known to the Secretary the conditions on which he offers the prize.

On motion of Dr. Lewis, Dr. W. J. Jones was requested to read the Prize Essay.

Dr. Jones was escorted to the rostrum by Dr. A. G. Carr, and performed the duty assigned to him in a most satisfactory manner.

On motion the paper was referred to the Publication Committee.

The President said he held in his hand the sum of $50, to be awarded, in accordance with resolutions passed at the last meeting, to the author of this paper, and requested Dr. McDonald to escort Dr. Duffy to the rostrum.

In presenting the prize, Dr. McDonald said: "Let me, my dear sir, in the name of the North Carolina Medical Society and as the agent of this committee, tender you this sum as a testimony of their high appreciation of the manner in which you have performed this voluntary work, and let me hope that your example will be followed by others of the Society."

Dr. Duffy received the money, expressing his sensibility of the high honor conferred upon him, and immediately handing it back, said he wished to offer the amount as a prize at the next meeting of the Society, as explained by Dr. Lewis.

Dr. Lewis said he had made one omission in what he had said for the committee. They regarded the unsuccessful essay as a most excellent and valuable paper, and requested the Secretary, if he should discover the author, to ask him to give it to the profession

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through the columns of some medical journal. He moved that the thanks of the Society be tendered Dr. Duffy for the money he had donated, and that it be offered as a prize for an essay on the subject named by him. Carried.

The Secretary read a telegram from Dr. Pittman establishing the "Pittman Prize" for the remainder of his life.

On motion of Dr. Lewis, it was voted to transmit to Dr. Pittman the thanks of the Society for his munificent liberality in continuing this "Prize" during his lifetime.

On motion of Dr. Hays, the Committee on the "Pittman Prize" were empowered to award this prize if, on their examination of the essays, any one was deemed worthy of it.

Adjourned till to-morrow at 10½ o'clock.

THIRD DAY—MORNING SESSION.

The meeting was called to order at 10½ o'clock.

Dr. George G. Thomas presented the report of the Obituary Committee, appointed to take notice of the deaths of members since 1881.

On motion the report was adopted.

Drs. Lewis and Thomas expressed to the Society their appreciation of services rendered by Dr. J. H. Stancell while a member of the last Legislature.

Dr. W. C. Ramsay rose to make to the Society his excuses for being absent from the meetings for several years past, and expressed the hope that he would never be kept away from another.

The Secretary read the following resolution from Dr. J. J. Summerell:

Resolved, That the North Carolina Medical Society have heard with great pleasure that our distinguished and long loved member, Dr. Thomas F. Wood, though still on his bed of suffering, is improving; and, while expressing to him personally our deepest, tenderest sympathy in his trial, we utter the hope that God may yet spare him to take again his accustomed place of usefulness in our annual meetings, and that many years of efficient work and honor may yet be his.

Dr. O'Hagan said there had been no resolution offered to the

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Society which would so heartily meet their approval as this. There was no one there, perhaps, to whom Dr. Wood was not known, and where he is known he is honored. It was a matter of most profound interest to him and the Society to know that Dr. Wood was improving. He wished it were in the power of the Society to appoint a committee to wait upon Dr. Wood and express to him the kindly feelings of the Society.

Dr. Summerell's resolution was adopted by a rising vote.

The President said it had been his pleasure to correspond with some of the older members of the Society and many other prominent persons. He read a portion of a letter from Dr. Otis F. Manson, of Richmond, Va., offering to the Society, for its "Transactions," his paper on "Hæmorrhagic Malarial Fever," just completed. On looking over the laws of the Society he found that it had been made an inflexible law not to receive a paper at second-hand. He took the liberty of writing this statement to Dr. Manson, that, while the Society appreciated in the highest degree his kindness in offering the paper, if they accepted it they would be establishing a very embarrassing precedent. He said Dr. Manson had sent some copies of this paper, and also one on "Sulphate of Quinine," for distribution among the members, and these could be obtained from the Secretary. He read letters from Drs. N. J. Pittman, John A. Wyeth, New York; Hunter McGuire, Richmond; W. T. Howard, Baltimore, and Will. George Thomas, Wilmington.

Dr. R. H. Lewis, Raleigh, read a paper entitled "Some Practical Reflections on Foreign Bodies in the Ear."

Dr. Thomas moved, with pleasure and gratitude to the author, that the paper be referred to the Publication Committee. It was so referred.

Dr. Booth, in commenting on Dr. Lewis' paper, suggested as a good substitute for a hook a common surgeon's needle, the point of which, when drawn across a hard surface, is turned up. He has found this very convenient for rolling the foreign body (in the great majority of cases a seed of some kind) from the ear.

Dr. Poole read a report of a case of "Quinine Amblyopia."

Dr. Lewis mentioned a case somewhat similar to that of Dr. Poole's, but in his case the trouble was caused by malaria, and not quinine. It was the case of a young man who, in an attack of malaria, not very severe, became absolutely blind, so that he could not see the sun. In

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six days the blindness passed off entirely. A peculiarity of this case was that the attacks, of which he had had several, always came on a Thursday at 2 o'clock. There was no fever and no symptoms of malarial poisoning except this. The remedy used in this case was salicylate of soda in large doses.

Dr. Poole's paper was referred to the Publication Committee.

Dr. Balsley recited the case of a young lady in whom irregular menstruation was accompanied by suppression of the urine and unconsciousness and apparent blindness. The duration of these symptoms was from Monday until Saturday, during which time but little fluid was taken. The catheter was introduced several times, but no urine of any amount was found. There was slight delirium. She recovered on Monday, the eyesight returned rapidly, and in the course of two or three days was fully established. A week afterwards there was an abscess on the neck. During the early part of the attack he gave aloes and calomel, but after a day or two all medicine was withheld and efforts to sustain the patient constituted the treatment.

Dr. Patterson mentioned having had four cases of difficulty in respiration after labor. One of these died, the others recovered.

Dr. Booth attributed it to pulmonary embolism. A similar case in his practice developed into pneumonia, and the patient died with these symptoms very little improved.

Dr. Baker read a paper from Dr. W. J. H. Bellamy on the use of "Antipyrin in Croup," which was referred to the Publication Committee.

The President stated that the paper sent by Dr. Kollock had come to hand, and on request of the Society read it. The title of the paper was "Abdominal Section for Traumatism; Intestines Sutured, with Recovery."

Prof. Tiffany said the paper just read is almost beyond criticism. The result of the operation, he suspected, was largely due to the bravery on the part of the surgeon in performing the operation so soon and not waiting till traumatic peritonitis was present, as a result of a discharge from the wound and a bloody action from the bowels into the peritoneal cavity. He is worthy of all credit. It is extremely rare for the surgeon to have a bloody action from the bowels or a discharge of feces from the wound so soon, and these were valuable indications for the operation. He had never done an abdominal section for gun-shot wound of the intestine, but has treated in

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the last few years two or three cases of the belly which have recovered. He had seen the bowel protrude from the wound, but did not think that a reason for doing abdominal section. When an effusion makes its appearance in the neighborhood it is an indication of peritoneal inflammation. He believes in a case of doubt it is right to open the belly. That is the teaching of to-day, and he thought it an improvement on the past. When the surgeon thinks the bowels may be wounded even without the signs the writer of the paper had, abdominal section will do no harm. He mentioned having done four abdominal sections. The first was for intestinal obstruction. The patient died, practically on the table. In the other three there was a different result. The first of these was exploratory. There was a tumor in the left side of the belly, and he did not know whether it was the spleen or kidney. He made an incision in the middle line, made the diagnosis and no harm was done. It was a tumor of the spleen. The next case was for peritonitis following perforation of bowel. That is somewhat in the line of gun-shot wounds of the belly. He made an incision into the right iliac fossa expecting to find an abscess. He did find one containing feces and much blood, and perhaps a half gallon of hot water was used to wash out the cavity. The belly did not go down as expected. The right side collapsed and general shape of belly was not what it should have been. The opinion seemed justified that the patient had suppurative peritonitis, and that adhesion had taken place between the general abdominal cavity and the right iliac fossa. He did laparotomy in the middle line from the umbilicus downwards, and he found the intestines floating in pus and serum. He emptied it as much as possible, and ran hot water through in large quantities. The child collapsed. He thought putting in hot water the best way of stimulating the patient in collapses after laparotomies, because he believed the collapses so commonly seen are due to chilling of the intestine. He called attention to the fact that the extent of surface of the peritoneum is about the same as that of the skin, and therefore capable of drawing off heat very rapidly when exposed to the air. The wounds were washed out with hot water several times daily. Feces came through both openings, showing that there had been escape of feces into the belly and that adhesions had formed. The child recovered. The third case was an abscess of the liver with a healthy peritoneum, and there was no trouble. He tapped through the chest just under the seventh rib in about the axillary line,

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evacuated the abscess and waited again for the cavity to fill up. He then did an abdominal section, placed a rubber tube in the abscess and fastened it in place, and the patient is now going about with the tube in his liver. Most cases of peritonitis do not generally become suppurative. The patient generally dies before that time. He advised the use of a plenty of hot water for cleansing the cavity, and that no food be given for several days. He did not think a better rule in surgery could be laid down than that in the paper read. If the operation is to be done at all, it should be done early. Use clean hot water. He does not think it necessary to have a large number of instruments to accomplish the result. The pocket-case contains all that is necessary in this operation. One thing of importance is the suture. It is extremely difficult to stitch up a wounded bowel. It is the most slippery of slippery things, and it should be held with the fingers, and not with an instrument. It is one matter with which the general practitioner should make himself familiar, and he advised that they should provide themselves with a few feet of the bowels of some animal and practice the stitch. The stitch should go through the serous and muscular layers, but not through the mucous, that, beside bringing serous surfaces into apposition, it may not come in contact with the intestinal contents. In practicing it himself in this way he found that it was a difficult thing to learn, and needed practice. He thinks this the only especial preparation necessary for the physician to have before attempting to suture a wounded intestine.

Dr. George G. Thomas, from the committee appointed to take into consideration Dr. White's resolution as to the establishment of an inter-State association, made the following report:

The committee appointed to consider the proposition made to this Society to enter into the organization of an Inter-State Medical Society, to embrace this and several other States, beg leave to report that they do not regard the proposed movement with favor, and respectfully recommend that this Society shall not enter into, or participate in, the formation of such a society as is contemplated in the motion submitted by Dr. White, of Richmond.

On motion the report was adopted.

Dr. Haigh rose to renew the invitation extended to the Society at the meeting in New Berne, that the next meeting should be held in Fayetteville. On that occasion he withdrew his invitation in favor

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of Charlotte, on the understanding that the meeting of 1888 would be held in Fayetteville.

Dr. Haigh's invitation was accepted.

Dr. Lewis moved that the time of meeting be the same as this year—the second Wednesday in April.

Dr. O'Hagan offered an amendment substituting Tuesday for Wednesday, and inserting the words "at 10 o'clock A. M."

The motion, as thus amended, was carried.

Dr. George G. Thomas asked for himself and his colleagues on the Board of Censors to be relieved from that duty. For himself, he would have to decline, and both the other gentlemen had asked to be relieved.

Dr. Lewis moved the resignation of these gentlemen be accepted.

Dr. Booth offered an amendment empowering the President to appoint another Board of Censors.

The motion, as thus amended, was carried.

On motion the thanks of the Society were voted Dr. Otis F. Manson for his munificent gift of pamphlets.

The hour for the installation of officers having arrived, the President requested Drs. Thomas and Booth to conduct President elect Haigh to the Chair.

Before tendering the gavel to his successor, Dr. Bahnson said to the Society: "For the honor you have conferred on me I have already expressed, and wish to repeat, my hearty thanks. It is a pleasure to have wielded the gavel in an assembly such as this; and for your kind granting of my last request, that you bear with me; for the courtesy you have shown my inexperience; for the attention to my requests as President of the Society, I feel I owe you my individual thanks. It is with scarcely a diminution of the pleasure I have experienced that I now introduce to you your President, Dr. T. D. Haigh."

Dr. Haigh said: "Fellow members, for the double honor you have conferred upon me in selecting me as your President for the ensuing year, and by honoring me before my own people in appointing my place of residence as the point where you will assemble next year, I heartily thank you. I will not attempt—I fear to attempt to express the feelings that stir me at this moment. But let me say that if my actions shall in any measure keep pace with the love I have for you all and for this Society, I shall not fail

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to come up, in some measure, to the point that your leader should take in the ensuing year. Again I thank you, and will be glad to see you all when me meet again, next year, in Fayetteville."

On motion of Dr. Payne, it was voted to pay the stenographer $25 for his services.

A vote of thanks was tendered the citizens generally, and especially the profession of Charlotte, for kindnesses to the Society during the session.

Adjourned till 3½ o'clock P. M.

Third Day—Afternoon Session.

The meeting was called to order at 3½ o'clock.

The President announced the following chairmen of sections for the ensuing year;

Practice of Medicine—Dr. Simmons B. Jones, Charlotte.

Obstetrics and Gynæcology—Dr. S. T. Nicholson, Washington.

Microscopy and Pathology—Dr. H. W. Lewis, Jackson.

Surgery—Dr. P. B. Barringer, Davidson College.

Medical Jurisprudence—Dr. R. F. Gray, Winston.

Materia Medica and Therapeutics—Dr. J. H. Way, Waynesville.

Dr. Graham, from the Committee on Credentials, reported the name of Dr. W. P. Craven, Mecklenburg county.

The name of Dr. J. C. Gidney was presented for reinstatement, being reported as having been dropped for the non-payment of dues.

Dr. Payne thought that members who had been receiving the "Transactions" regularly should pay all back dues.

Dr. Bahnson said that during the time he had served as Treasurer there was a direct ruling on this subject and the Society ordered that any old member could be admitted on the payment of three years' dues. He called attention to the necessity of codifying all such rulings of the Society, and moved that the Secretary be empowered to employ some competent person to codify and properly index all rulings and orders of the Society and have the same printed.

The motion was carried.

Dr. Young moved to reconsider the motion fixing the time of the next meeting on the second Tuesday in April. His reasons for this

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were that there are one or more medical colleges which do not graduate their classes until May, and the present arrangement would require these graduates to wait a year before they could get their licenses.

The motion was carried.

Dr. Young then moved that the Society meet next year on the second Tuesday in May. Carried.

Dr. Graham mentioned a case of pulmonary phthisis treated by inhalations of turpentine, resulting in lessening the amount of sputa and improving the general condition. He was more than pleased with the treatment. The cough had decreased more than one-half. The patient carries the apparatus in his pocket and uses it several times a day, consuming about half an ounce of turpentine daily. It does not affect the kidneys or irritate the mucous lining of the larynx.

Dr. Payne mentioned a case in which an eruption followed the administration of chloral hydrate, and subsided on the discontinuance of the treatment.

Dr. Graham had noticed that the long-continued use of chloral would cause an eruption around the nails.

Dr. Bahnson presented the following resolutions:

Resolved, That this Society recognize, with unfeigned pleasure, the assistance rendered by the press of the State to the Medical Society of North Carolina in its efforts to elevate the standard of medical education, and we are proud to acknowledge our obligations to these enlightened educators of the public.

Resolved, That the thanks of the Society are hereby tendered to the papers of Charlotte for their efforts to make this meeting a success.

On motion the thanks of the Society were voted to the railroad and various corporations, the physicians and Academy of Medicine, and all those who, in public or private capacity, helped to make this meeting so pleasant. Also to Mr. Atkinson for the delightful entertainment at the Charlotte Female Institute to which the Society was invited.

Dr. Bahnson was allowed to amend his motion as to the printing of all rulings of the Society by adding the words "and published with the 'Transactions' of the Society."

On motion the Secretary was empowered to have bound all back numbers of the "Transactions."

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The President appointed on the Committee on "Pittman Prize" Drs. P. E. Hines, Hubert Haywood and R. H. Lewis, Raleigh.

He appointed on Committee on "Duffy Prize" Drs. J. J. Summerell and Whitehead, of Salisbury, and Beall, of Greensboro.

Dr. Summerell asked to decline, but on special request of the President consented to serve.

On motion the meeting adjourned to meet in Fayetteville on the second Tuesday in May, 1888.

AWARD OF THE "PITTMAN PRIZE."—The Committee to award the "Pittman Prize" of one hundred dollars have given their preference to the essay of Dr. Julian M. Baker on "Hemorrhagic Malarial Fever." The JOURNAL wishes to offer its congratulations to Dr. Baker for this vote of esteem on the part of the Committee.

ANNUAL MEETING OF THE BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA.

CHARLOTTE, N. C., April 11, 1887.

The Board of Medical Examiners of North Carolina convened in the Central Hotel at 9 o'clock A. M. April 11th, 1887.

The following members were present: Dr. Wm. R. Wood, President and Examiner on Chemistry and Pharmacy; Dr. W. J. H. Bellamy, Secretary and Examiner on Materia Medica and Therapeutics; Dr. A. W. Knox, Examiner on Obstetrics and Diseases of Women and Children; Dr. P. L. Murphy, Examiner on Anatomy; Dr. James A. Reagan, Examiner on Physiology and Medical Hygiene; Dr. Frank Duffy, Examiner on Surgery, Surgical Pathology and Diseases of the Eye and Ear; Dr. Willis Alston, Examiner on the Practice of Medicine.

After the reading and approval of the minutes of the last meeting and transacting other important business, the names of forty-eight (48) applicants for license were recorded. As a result of the examinations, which were continued from the 11th to the 15th inst., the following thirty-four (34) gentlemen received their licenses to practice medicine in North Carolina:

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Dr. William B. Henderson, Hopewell, Mecklenburg county.
" William S. Davidson, " " "
" Henry L. Abernethy, Hickory.
" Andrew J. Hoover, Lincolnton.
" William D. Pemberton, Albemarle, Stanley county.
" Ogden D. King, Wilmington.
" Frank J. Garrett, Rockingham.
" James H. McDuffie, Keyser, Moore county.
" Starkie S. Daniel, Winton, Hertford "
" Andrew W. Goodwin, Raleigh.
" Robert L. Gibbon, Charlotte.
" Alanson Capehart, Roxabel, Bertie county.
" John M. Belk, Munroe.
" Alpheus Fields, Kinston.
" Buxton Boddie Williams, Warrenton.
" Whipple W. Clark, Hominy Creek.
" J. C. B. Justice, Leicester, Buncombe county.
" Robert W. Winborne, Barnitz, Chowan "
" John L. Ray, Burnsville, Yancey "
" John W. Neal, Meadows, Stokes "
" Charles B. McAnally, Madison, Rockingham county.
" James A. Austin, Long's Store, Union "
" Hiram C. Jones, Wilbar, Wilkes "
" Frank M. Winchester, Munroe.
" Amos F. Jones, Wilkesboro.
" Edward F. Strickland, Bethania, Forsyth county.
" David A. Stanton, Level Cross, Randolph "
" John E. Ashcraft, Munroe.
" J. P. Fearington, Bellevoir, Chatham county.
" James S. Doak, Ruffin, Rockingham "
" James C. Grady, Seven Springs, Wayne "
" J. Wellington Byers, Charlotte.
" Richard D. Hodge, Raleigh.
" Henry B. Shields, Carthage, Moore county.

A (duplicate) license was issued to Dr. M. F. Fox, of Guilford county, a licentiate of the Board at Durham in May, 1885, it having been represented that the original license was lost.

The business of the Board being completed, it adjourned *sine die*.

W. J. H. BELLAMY, M.D., Secretary.

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OBITUARY.

James A. MacRae, M.D.

At a regular meeting of the Cumberland County Medical Association, held at the office of the President this day, the following resolutions were offered and unanimously adopted:

With sincere regret for the demise of our esteemed brother and co-laborer, Dr. James A. MacRae, we would evince, as a Society, our profound appreciation of the worth, high professional standing and devoted patriotism of one so long associated with us; therefore be it

Resolved, That, in the death of Dr. MacRae, this Society has lost one of its brightest luminaries and most useful members, the community a valuable citizen and the country a true and tried patriot.

Resolved, That, as our lamented friend showed, throughout his life, his devotion to his country by voluntary service in two wars, his memory has a halo of glory which endears him the more to our remembrance.

Resolved, That, in his long affliction, his fortitude and resignation furnish us with an example worthy of our highest esteem.

Resolved, That, in all the relations of life, our deceased brother bore himself with that dignity which proved him to be a gentleman in the fullest sense, and one in whom were beautifully blended the qualities of the strictest integrity with the highest professional skill, and we now point with pride to him, this last star which has disappeared from our professional galaxy.

Resolved, That a copy of these proceedings be spread upon the minutes of this Association, and a copy be furnished to the bereaved widow of our departed friend, and also a copy furnished to the North Carolina Medical Journal with a request that it be published.

James A. Hodges, Secretary.

Fayetteville, N. C., March 16, 1887.

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NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

Number 5. Wilmington, May, 1887. Vol. 19.

ORIGINAL COMMUNICATIONS.

CHRONIC NASAL CATARRH AND ITS RELATION TO PHTHISIS, ASTHMA AND ALLIED AFFECTIONS.

F. Walter Porcher, M.D., Charleston, S. C.

The history of most, if not all, cases of phthisis and asthma date their earliest symptoms from a cold, and careful inquiry generally elicits the fact that there had been a frequent succession of colds or a great tendency to take cold on the slightest exposure. These attacks are not infrequently followed by laryngeal inflammation becoming more or less chronic, with cough, expectoration, etc.

A rhinoscopic examination of such cases generally reveals hypertrophied tissue over the turbinated bones, with frequent congenital or traumatic deviation of septum, exostoses, polypi or adenomata of the vault of the pharynx. When much inflammation has been present there is often complete occlusion of one or both nostrils from pressure of opposing surfaces. This inflammation extends imperceptibly to the larynx, the first and only indication of which to the unhappy sufferer being hoarseness, cough or pain, and here I

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would like to invite your attention to a fact which is almost universally admitted by authorities, as I will endeavor to show further on, that the inflammation invariably begins in the nose. First, successive attacks of influenza and afterwards a chronic inflammatory thickening of the nasal mucous-membrane ensues, and especially that over the turbinated prominence, or where a deviated septum exists, or a jutting out spur or promontory of cartilage, the inflammation is set up to be extended and prolonged, frequently at the expense of the patient's life, either from phthisical laryngitis or implication of the lung itself. Only recently have we been shown how many and varied are the ill-effects resulting from chronic nasal enlargements. The presence of polypi and its resulting catarrh, hypertrophies, exostoses, etc., are the frequent cause of acute attacks of spasmodic asthma, hay fever, acute and chronic laryngitis, epiphora, trachoma, etc., as proved by the fact that their radical cure is brought about only by the removal of these growths.

Dr. Boerne Bettman, of Chicago, in a very recent discussion before the Medical Society of that city, on "The Connection Between Ocular and Nasal Diseases," gives it as his opinion that "numerous pathological conditions of the eyes, and lids even, are attributable to abnormal changes in the nose, giving as an example a radical cure of a case of epiphora, by a deep incision with the electrode knife into an extensive swelling over the anterior portion of the inferior turbinated bone. Nasal polypi he also thought to produce the same effects. He stated that he had treated the majority of cases of these growths coming under his care with the galvano cautery.

The applications which were restricted to the anterior ends of the turbinated bones frequently failed to give relief, as it has been found that a sensitive area exists at the posterior end of the inferior turbinated bone and also at the anterior part of the nasal cavity in the angle forming the boundary of the vestibule.

Dr. Henry Grady agreed with Dr. Bettman, and mentioned cases of tracoma and pseudo-erysipelas of the lids, which had been caused by nasal catarrh, and also that true periodical and non-periodical hay fever, true catarrh of the upper and front part of the nose, polypi and other affections produced disturbances in the eye. I also find in a late number of the *Medical News*, of Philadelphia, the following account of a case of tuberculosis of the fauces:

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"Mr. L. Browne showed at a recent meeting of the Medical Society of London, a young woman, aged twenty, married, and the mother of three children, who was the subject of tuberculosis of the fauces and pharynx, extending to the posterior wall of the larynx and slightly involving the right arytenoid cartilage. The lung condition showed only incipient phthisis, but bacilli of tubercle were plentiful at the seat of ulceration in the fauces. The patient had suffered, on admission into the hospital, on December 4th, from dysphagia in such an extreme degree that she preferred not to take food. According to the method advised by Krause, of Berlin, the diseased surface, previously anæsthetized by cocaine, was scraped, and solutions of lactic acid, 20, 40 and 60 per cent., were applied daily for twenty-one days. At the end of that period acute inflammation took place, on recovery from which the dysphagia was found to be absolutely relieved. In reply to Dr. Angel Money, he said that the case was regarded as tubercular by all who had seen it, and the typical bacilli were discovered."

Without active treatment to check the progress of an acute attack of laryngitis, a chronic condition of the parts may be developed, and we will have an incessant cough, more or less profuse expectoration, a continuous tickling in the back of the throat—the uvula becomes elongated and pointed or whipsnapper-like—the soft palate relaxed and let down, and the voice assumes a deadened, toneless character, or, in other words, the patient is said to have chronic laryngitis.

Dr. Charles E. Sajous, of Philadelphia, in his recent work (1886) on "Diseases of the Throat and Nose," in speaking of chronic laryngitis, says: "As pointed out under the heading of hypertrophic rhinitis, it is a frequent complication of that affection—the chronic catarrhal inflammation extending by continuity of tissue to the larynx, which is itself made subject to all the exacerbations which the nasal disease undergoes. A more frequent connection between the two diseases, however, is the irritation kept up by the posterior nasal discharges which either drop into the larynx or trickle along the posterior pharyngeal wall until the inter-arytenoid commissure is reached. Here they accumulate to a degree and maintain the posterior portion of the larynx in a constant state of irritation, which is further aggravated by the coughing and hacking induced.

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This cause of chronic laryngitis is insisted on by Bosworth, and I can well confirm his opinion.

A fact which I have frequently noticed in this connection is that the amount of chronic laryngeal inflammation is in proportion to the degree of purulence of the discharges. Purely mucoid secretions are tolerated by the laryngeal mucous-membrane without harm, but as soon as they become muco-purulent or purulent, local congestion is engendered, followed frequently by erosions. These cause hoarseness, cough and expectoration (the sputa being formed principally by the posterior nasal discharges) and the presence of phthisis is suspected.

When hypertrophic rhinitis is present and sufficiently marked to prevent free respiration through the nose, oral breathing becomes another aggravated feature.

The air reaching the larynx without being warmed, moistened or purified of its extraneous substances, carries a continual burden of irritating material into the larynx.

Dr. W. C. Jarvis, the distinguished author and inventor, of New York, in a late brochure on "Catarrhal Affections of the Nasal Passages as a Cause of Pulmonary Phthisis with Special Reference to Its Heredity," says: "The etiology of pulmonary tuberculosis has naturally received a deeper significance since the discovery of the bacillus tuberculosis. Despite, however, the positive character of Koch's results, there remains, according to his own admission, much yet to be learned concerning the pretubercular conditions which determine the development of the tubercle bacillus. The most favorable conditions are pent-up secretions, removal of the protective epithelia of the bronchi, abrasions, etc., one or more of which will be frequently observed in nasal catarrh and may be also associated with catarrhal phthisis when taken in the true sense of the term, as taught us by Dr. Alfred L. Loomis.

"Conspicuous among the complications traceable to nasal catarrh and bearing upon the question of the causation of pulmonary phthisis is chronic irritative hyperæmia of the larynx, and recognizing this organ, with certain modifications, as the upper portion of the lungs, it clearly constitutes a menace to the integrity of the entire pulmonary tract.

"The disturbances to nasal drainage arising from nasal catarrh prevent the natural disposition of the nasal mucus, and consequently

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permits it to enter the larynx. Now, nasal mucus in the larynx is a foreign body, and as such invariably gives rise to prolonged irritation and to a familiar train of signs and symptoms. The larynx naturally resents the invasion of its territory, and we have a constant desire to clear the throat."

The accuracy of this observation of Dr. Jarvis becomes more apparent when we realize that the mucus becomes perverted and more acrid from retention by hypertrophied tissue, deviated septa, etc.

The deviated septa, also, which we have several times observed to be a hereditary condition and all its injurious effects, is handed down from father to son. A sharp spur of cartilage or bone, jutting out from the septum, presses against the contiguous surfaces and becomes a continual pressure irritant and inflammatory centre. Thus we have a system of reciprocal inflammation provoking and prolonging a nasal catarrh.

The same writer, speaking of atrophic rhinitis, says: "It is well known that the nasal cavities are abnormally enlarged from long-standing atrophic processes. Large, firm masses of mucopurulent matter cling to the smooth walls of the nares, which become dry and are constantly precipitated into the throat, irritating and inflaming the larynx. The patient is harrassed and enfeebled by constant efforts to clear his throat and larynx from these suffocating crusts. The nasal inflammation extends down to the pharynx and produces pharyngitis sicca, and the dry patches of which, by obstructing the passage of the scanty nasal mucus, causes it to be continually deposited all over the larynx and vocal cords. The patient becomes emaciated, weak and miserable from the frequent efforts to clear his throat from these inspissated irritating discharges; and night-sweats, hectic fever and all the usual signs of advanced phthisis present themselves."

These are only a few of the many authorities that I could cite in substantiation of these facts. I will add brief abstracts only of one or two out of a number of cases that have come under my personal observation.

Case 1.—*Chronic Laryngitis.*—Mr. D., white, aged 23, was referred to me by Dr. Charles W. Kollock.

The patient states that he has suffered with frequent nasal catarrh and incessant trouble with his throat for years. He thinks that he

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has incipient phthisis from the fact that he remembers his father to have had a similar hoarseness of his voice. Has been under treatment several times for chronic laryngitis, but has never received any permanent relief.

Examination with the laryngoscope showed a chronic irritated condition of his larynx and pharynx. His soft palate was relaxed and let down, and his uvula was elongated and pointed or whipsnapper-like. But in addition to all this, the rhinoscopic mirror showed an exostosis jutting out from either side of the posterior end of the septum —much larger on the left side than on the right, and pressing against the hypertrophied tissue over the posterior portion of the inferior turbinated bone, almost occluding the left nasal cavity. His voice had that peculiar deadness, loss of tone and rasping character common to such cases. I at once amputated his uvula and he experienced immediate relief from the continuous tickling and consequent necessity of frequently clearing his throat, to which for a long time he had been subject. With the burr drill and "surgical engine" I then cut the exostosis off and enlarged the lumen of the left nostril, thereby increasing his breathing capacity to such an extent that he now expresses a doubt if that nostril had ever been permeable before. I hope that, with the complete removal of the obstruction to his nasal breathing by the restoration of the normal calibre of his nostril that the laryngeal inflammation will become lessened, and that there will be an improvement in the tone of his voice and in his general health, especially as he has lately confirmed the original diagnosis by stating that the discharge of pus following the operation, in addition to the abnormal nasal mucus from which he had previously suffered, has greatly irritated and increased the inflammation of his larynx.

Case 2.—*Chronic Laryngitis.*—Mr. J., white, aged 45, was referred to me by Dr. R. B. Rhett, with a history of having had a severe cough and most of the symptoms of incipient phthisis.

The patient states that about six or eight years ago he had repeated attacks of influenza until his breath became fetid. This annoyed him to such an extent that he resorted to a great many remedies for relief, but only gained temporary benefit by the occasional insufflation of some empirical powder—the disorder reappearing whenever the powder was discontinued. His liability to frequent

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catarrh finally produced a severe laryngitis, with much cough, expectoration, etc.

On examination with the rhinoscopic mirror I found a large hypertrophy on the posterior end of the right inferior turbinated bone, and a general hypertrophied condition of the nasal mucous membrane. He had also posterior pharyngeal catarrh, with the formation of hard, inspissated crusts on the posterior pharyngeal wall and a chronic laryngitis. I cauterized the hypertrophy with the galvano-cautery knife and applied mono-chloro-acetic acid to the other surfaces, as recommended by Dr. L. Morrison Ray, of Louisville, Ky. I also treated his pharyngitis with astringent sprays produced by means of the Sass spray tubes and the reservoir of compressed air. In addition to this Dr. Rhett had already given him a general constitutional treatment for phthisis, and his condition was so much improved that he was enabled to return to his business, viz: that of a driver on one of the street car lines.

Now, the next point to which I would like to ask your attention is the frequency with which asthma is originated and kept up by diseases of the nasal cavities. A fact which is by no means universally admitted by our profession.

Dr. C. E. Sajous says, in this connection, of exostoses and nasal growths, that pain due to pressure is sometimes quite severe and manifests itself along the course of the fifth pair, while reflex asthma, due to pressure on the posterior portion of the inferior turbinated bodies, may be induced, as was the case in one of his patients. In "Pepper's System of Medicine," under the heading of asthma, I find the following: "Vollotini, of Breslau, has described cases of asthma which were evidently due to the presence of naso-pharyngeal polypi, the attacks disappearing with their removal and reappearing with their renewed growth."

These statements have been confirmed by subsequent cases observed by Hœnish. Attention has lately been directed to a number of cases in which the asthmatic paroxysm was found to be associated with catarrh of naso-pharyngeal and laryngo-tracheal mucous-membrane. It is thought in such cases that the irritation caused by the pressure of the swollen mucous-membrane upon the adjacent nerves is conveyed through them to the pneumo-gastric, and thus provokes the bronchial spasm. Daly, Roe, Harrison, Allen, Hack and others have traced the paroxysms of hay asthma to an hypertrophied con-

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dition of the mucous-membrane over the turbinated bones and septum of the nose which renders it peculiarly susceptible to the action of the irritants which cause that troublesome affection, and have succeeded in curing many cases by simply removing the diseased tissue.

I find no mention of this origin of asthma in many other authors whom I have consulted, and in conclusion I will briefly relate two cases confirmatory of the above.

Case 1.—*Asthma.*—J. O. H., white, aged 25, came to me suffering from an acute exacerbation of a chronic rhinitis to which he had for many years been subject. He stated that whenever his nasal catarrh became worse that he would invariably be taken with a severe attack of asthma and his appearance indicated that was no exaggeration. The heavy, dull look of his eyes, as well as the congested, swollen condition of his nose and mouth being evident symptoms of his condition. My father had attended him previously for two attacks of asthma of extreme severity.

On examination with the rhinoscopic mirror illuminated with a Tobold's laryngoscope, I found a complete turgescence of the entire mucous-membrane, producing complete occlusion of the nares and a general hyperæmic condition of his larynx and fauces. Upon making a subsequent examination the origin of his trouble was discovered in a chronically hypertrophied condition of the mucus-membrane over the turbinated bones. I regret very much that I have not yet been allowed to institute treatment in this case, the patient's ignorance and timidity preventing.

Case 2.—*Asthma.*—B. M., colored, aged 9, came to be treated for frequent attacks of asthma, and, as in the previous case, it was suspected that they had originated from frequent attacks of acute rhinitis. So I intimated to her mother what I thought to be her true condition, and she at once told me that the child was peculiarly subject to colds—in fact, that she would take cold without the slightest exposure and entirely irrespective of temperature; she would begin to sneeze and breathe stridulously, whether the weather was favorable or unfavorable. Her appearance was very similar to the preceding case, but, owing to her youth and irritable state, I have not yet made any satisfactory examination or local treatment, only ordering a general tonic and hygienic regimen.

With regard to the treatment of nasal enlargements, it is generally conceded that sprays, powders, douches, etc., are only palliatory

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adjuvants, and are by no means efficient for bringing about their entire removal or suppression. By far the most effective agent that we have is the galvano cautery knife or snare, or, in case of an exostosis or fibrous polypus, the burr drill and surgical engine, small saw or cold wire snare of Jarvis, Sajous and others may be used. Acids—acetic, chromic or nitric—may be employed in lieu of the galvano-cautery, but we have found, upon repeated trial, that they are more painful and difficult of application as well as less efficient and satisfactory in their results. According to my experience in simple chronic rhinitis monochloro-acetic acid is an excellent application, as it is neither very severe in its action nor very painful to the patient, and with it, as well as any of the above remedies, a simple application of a 4 per cent. solution of cocaine serves to render the pain almost nil.

DR. WHITTAKER ON THE SPECIALISTS.—It is a lamentable fact that the least work was done by the specialists. There have been notable exceptions, but the fact remains. Sessions, whose subjects have been confined to specialists in medicine, have often been characterized by the absence of the men in our city who present themselves to the profession and the people as especially qualified in these matters. The profession views with suspicion a specialist who does not show sufficient interest in his department to attend the medical society on such occasions. Such specialists are like Thompson's razors, intended only for the trade. It is a question if the general practitioner is justified in turning over to these specialists any of his cases.—*Address before the Cincinnati Academy of Medicine.—Lancet-Clinic.*

PULSATILLA.—In the *British Medical Journal* Mr. Gerard Smith strongly recommends pulsatilla in "inflammatory states of the testicle, epididymis and spermatic cord." He says it "subdues promptly the intense suffering of such cases; and the relief is so rapid that it is even unnecessary to employ morphine to subdue the pain, while the swelling and heat subside more rapidly than under any other drug."—*American Practitioner and News.*

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REPORT OF CHAIRMAN OF SECTION ON OBSTETRICS AND GYNÆCOLOGY.

By E. M. LITTLEJOHN, M.D., Thomasville, N. C.

(Read before the Medical Society of the State of North Carolina, at Charlotte, April 14, 1887.)

Mr. President and Gentlemen:—In offering to you my report as Chairman of the Section on Obstetrics and Gynæcology, I have borne in mind the fact that, when the reports of the chairmen of sections are so long, it allows too little time for discussion, reading of clinical histories, etc., pertaining to that section (as was called to our attention in a late issue of the NORTH CAROLINA MEDICAL JOURNAL), I shall therefore be much more brief than has usually been the custom. Though, the subject of "Antiseptics in the Practice of Obstetrics" I consider of so much importance, that I will be more voluminous on this one subject.

OBSTETRICS.

The Application of Antiseptics in the Practice of Obstetrics.

This is a subject that we all know is not new, but as there seems to be some opposition to it of late, I have thought it proper to try to demonstrate *from facts* that the use of antiseptics in the practice of Obstetrics has done as much for the preservation of human life as Listerism and antiseptics have for surgery. In 1847 Semmelweis, then a clinical assistant in the Lying-in Hospital at Vienna, made the startling assertion that "puerperal patients were chiefly attacked with puerperal fever when they had been examined by the physicians who were fresh from contact with the poisons engendered by cadaveric decay; that fever ensued in the practice of those who, after post-mortem examinations, washed their hands in the usual manner, whereas no fever, or but few cases of disease followed when the examiner had previously washed his hands in a solution of chloride of lime." This observation was the foundation-stone, as it were, of our present knowledge of the application of antiseptics in obstetrical practice.

Before making a comparison between results obtained years gone by, when no regard was paid to the use of antiseptics in this branch of the

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profession, and results obtained at present, it would be well to state the views now accepted in relation to puerperal fever. According to the "Puerperal Fever Commission," appointed by the Berlin Society of Obstetrics and Gynæcology, this disease causes from ten to fifteen per cent. of the deaths occurring during the period of sexual activity, and has destroyed nearly as many lives as small-pox or cholera. There can be no question that the weight of evidence is in favor of those who claim that what was formerly known as puerperal fever is septicæmia, identical in origin, cause and results, with the surgical septicæmia formerly so dreaded in surgical wards of hospitals and in the private practice of surgeons.

It is, moreover, now clearly recognized that the great number of all puerperal inflammatory affections, such as cellulitis, metritis, peritonitis and the like, owe their origin to infection, and the attention of obstetricians has been drawn to what bacteriologists are doing in laboratories. It is to-day admitted by many obstetricians, and leading ones, that the infection in these cases must come from without.* Innumerable investigations have shown conclusively that the suppuration process, as well as many of the acute diseases termed infectious, are due to the activity of the lower forms of life known as bacteria. This is especially true of that class of affections which may be called "maladies following wounds." It may be considered proved by the experiments which have been made to determine, that in the healthy human organism there exist no bacteria. On the skin and mucous-membrane they are constantly present, but so long as the surfaces remain intact the most virulent organism known will do no harm; just as soon, however, as there is a solution of continuity and the bacterium is able to gain an entrance into the tissues of the body, then damage begins, provided the organism be possessed of pathogenic powers, in the first place. The first condition necessary for the hurtful activity of the bacterium to become manifest is that there shall be a solution of continuity—a wound of the skin or mucous-membrane. The second condition is that rather indefinite state of affairs called susceptibility, this being a lowering of the vitality, a depression of the blood-supply or some minute change in the cells, which it is beyond our power, as yet, to describe definitely. In the light of our present

* "The Use of Antiseptics in Obstetric Practice," by W. L. Richardson, M.D. *Boston Medical and Surgical Journal*, January 27, 1887.

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bacteriological knowledge the terms pyæmia and septicæmia no longer retain their original signification. In the words of Koch, "pyæmia does not arise, as was one time believed, from the entrance of pus into the blood-vessels, and septicæmia is not putrefaction of the living blood." These appellations can now be employed only as collective terms for a number of symptoms, which, in all probability, belong to different diseases; that is to say, are produced by the activity of different bacteria. It is only by the observation of these bacteria that one can say, with scientific exactness, what special form of pyæmia or septicæmia may be under observation. That this is distinctly true is proved in one way by Koch's observation of the bacillus of the mouse-septicæmia, which is fatal to the house-mouse and has no effect upon the field-mouse or rabbit, of pyæmic septicæmia and erysipelas in rabbits; and in the other way by the investigations of Rosenbach, Passet and others, who have shown that several varieties of bacteria are acting in the production of the suppurative and inflammatory processes in man. To what has been said regarding septicæmia and pyæmia, *puerperal fever* forms no exception.

Notwithstanding Pasteur's work upon the subject, the best investigations show, without doubt, that puerperal fever must be considered to be a name given for the sake of convenience to a group of symptoms which represent the effects of an attack upon the system by one or more varieties of bacteria. This disease is eminently a traumatic wound disease. A woman passing through the puerperal state with no untoward symptoms, has never been found to have bacteria in the system, whilst those attacked by puerperal fever are invariably found to have bacteria in the tissues, blood-vessels or lymphatics of the affected parts. The two conditions necessary to the entrance and growth of bacteria are present in the parturient state in a pre-eminent degree. The uterus after parturition is, like any other wounded surface, exposed to the air passing over blood and organic debris, especially exposed to putrefaction and the entrance of bacteria, whilst the profound modification of its tissues, blood-vessels and mucous-membrane furnish the second favorable condition for their growth after obtaining entrance. The bacteria make their way in from outside. They are not born from anything in the uterine tissue—there is no spontaneous generation about it. The vagina contains bacteria in health like the mouth,

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and, like the bacteria in the mouth, those in the vagina do no harm. Even in a diseased state the ordinary putrefaction bacteria do not change their character, and puerperal fever and peritonitis do not result from their presence. It is only by the entrance of the pathogenic bacteria—and sometimes of more than one variety of these—that a disturbance is produced. These pathogenic varieties are *brought* to the uterus. They are not there at first, and are brought by the air or some other less suspected method of conveyance. The varieties of bacteria which have thus far been especially connected with puerperal fever, are :

1st. Rather long cylindrical filaments, appearing especially in rapidly fatal septicæmias.

2d. Streptococci or micrococci, occurring in chains, common in the milder forms of septicæmia.

3d. Diplococci or micrococci, occurring in pairs, and especially where there is suppuration.

4th. Micrococci in irregular masses.

Any or all of these forms may be found in a single case, and there is no doubt that these will, finally, be resolved into a more distinct and numerous classification. Unquestionably the problem is, how to keep these bacteria out of the body. Without their entrance there will be no puerperal fever or septicæmia. To my mind the problem is being solved by the use of antiseptics in the practice of obstetrics, and the time may come when the general practitioner of medicine, availing himself of this great advance in the Section of Obstetrics, may almost erase puerperal fever or septicæmia from the list of dangerous diseases attacking women in child-bed. How are we to prove our assertions? Not by means of those gentlemen who from time to time rush into print with reports of 500 or 1,000 cases of labor without loss of one (for we all know how prone people are to mention success and say nothing), but by results received in well-conducted maternites or lying-in hospitals under rigid antiseptic precautions. Let us first investigate the maternite of the great obstetrical centre, Vienna. The records of this institution show that during February, March and April, 1823, out of 698 women confined, 133, or 19 per cent. died of puerperal fever; in 1842, out of 3,287 women confined, 548, or 16 per cent. died; in 1846, out of 4,010 women confined, 459 died, and in 1854, out of 4,393 women confined, 400 died. Now, compare these statistics with the results

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obtained to-day in the same institution. Take the report of Ehrendorfer, assistant at the second Vienna clinic. He reports that in 1882 2,898 women were confined in his clinic with a mortality of one-half one per cent. Among these were thirty-five twin labors, sixteen face presentations, fifty-nine forceps operations, twenty-three versions, three embryotomies, two decapitations, one Cæsarian section, twelve craniotomies and seven placenta previa. Besides these complications 211 students had the privilege of the wards and were instructed in the touch and delivery. In 1884 there were 2,788 confinements with a total mortality of 33-100 per cent. The complications, as in 1882, were various, and the number of students receiving instruction was 324. Spiegelberg, of Breslau, lost only five patients with puerperal fever out of 901 confined. Prof. Lusk, in his book of the edition of 1885, reports that in Prof. Streng's division of the maternite in Prague during 1882 and 1883 no deaths occurred from septic causes in 1,100 confinements. Dr. Goodell, of Philadelphia, reports two deaths in 756 cases of confinement at the Preston Retreat. Dr. Garrigues has proved completely the efficacy of antiseptic treatment at the New York Maternite Hospital. From 1872 to 1882, inclusive, the number of confinements was 2,827, the deaths 116, a little over 4 per cent. In 1883 thirty died of 345 confined. At this time a reform took place which included the following antiseptic precautions: The wards were fumigated and the floors and furniture washed with a 1 to 1000 per cent. solution of hydrarg. bichloride. Every patient upon entering the lying-in ward, after the bath, had her abdomen, buttocks, genitals and thighs washed with a solution of the same (1 to 2000). During labor the vagina was irrigated with the latter solution. When labor was prolonged the irrigation was repeated every three hours. Great care was taken of the hands on the part of doctor and nurse. Glycerin and corrosive sublimate (1 to 1000) were used for lubricating fingers previous to making internal examinations. Antiseptic pad was applied to the head during egress, and to the vulva until after the placenta was expelled. Absorbent cotton, covered with netting soaked in bichloride solution, was applied to external genitals during child-bed period. This latter applied and removed with the same care as in dressing a wound after a capital operation. Irrigation first of the vagina and afterwards of the uterus, immediately after labor, in cases where the hand or instruments had been

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passed into the uterine cavity. After these precautions had been taken, in the following 162 confinements, there were *no deaths*, and from October to July, inclusive, of 409 patients confined, though many operations were performed, five died, but only three of these were from septic causes, and Dr. Carrigues believes they were the result of neglect of certain prescribed details. In the Boston Lying-in Hospital, from January 1, 1873, to December 1, 1884, 2,661 women were confined, with a mortality of 3.04 per cent. from septic causes, and during these eleven years the hospital was closed three times for several months on account of the great prevalence of puerperal fever. In 1885 antiseptic methods somewhat similar to those used by Garrigues, were adopted in this hospital, since which time there have been no deaths from septic causes, although during this time 681 women have been confined. In the face of such facts, which, if time allowed, might be greatly multiplied, he is an unwise, if not unfaithful, obstetrician who does not surround the puerpera with every possible protection against the entrance of septic germs through the gateway opened by the necessary traumatisms of labor.

To the general practitioner of medicine the facilities for carrying out the minute application of antiseptics in the practice of obstetrics cannot be so great as in a well-conducted maternite or lying-in hospital, but every medical man engaged in obstetrical practice should make every effort to approximate these minutiæ. He should ever be careful in attending a patient in labor, after being in attendance upon a case of puerperal fever, scarlet fever, erysipelas, etc. And when in such attendance he should disinfect his own hands and see that nurses or those who come in contact with the patient's parts, do likewise. For this purpose iodoform grs. 5, or carbolic acid grs. 4, to ʒ i of vaseline can be used. The examining finger should be smeared with this ointment afresh upon each examination. The genitals and surrounding parts should be washed in a 1 to 3000 solution of bichloride of mercury. And if forceps are to be used, the vulva and vagina should be washed out with the same solution before application. All instruments used should be thoroughly disinfected by washing them in a carbolic solution ʒ ii to a pint of warm water. I prefer carbolic solution as a disinfectant for instruments, as the solution of bichloride corrodes them. After the child's birth no undue haste should be made to effect the expulsion

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of the placenta. This should be accomplished by Credé's method of expulsion, care being taken not to introduce the hand within the vulva, vagina or uterus, if such can be avoided. The perineum should be carefully examined. If there is sufficient laceration to require suturing, the parts are washed with the solution of corrosive sublimate, and then the edges are brought together by means of carbolized catgut sutures, some powdered iodoform being subsequently applied over the seat of laceration. After this the vaginal injection is repeated and an antiseptic pad should be applied to the vulva; for this the ordinary napkin, smeared with iodoform ointment, answers a very good purpose in private practice. The bichloride solution can be made without *trouble* by using the antiseptic tablet manufactured by John Wyeth & Bro., of Philadelphia. The addition of one of these tablets to three pints of water, furnishes us with a solution of the required strength. The use of the antiseptic pad or napkin should be continued until the patient sits up or until all danger of septic infection has passed.

Whenever the mother has given birth to a putrid child or a partially decomposed placenta, an intra-uterine injection of the bichloride solution of the same strength is given at the close of labor, in addition to the vaginal one.

I believe that the acceptance of the benefits derived from the use of antiseptics in obstetrical practice and the application of the same by the general practitioner of medicine, would do much to decrease, if not efface entirely, that dreadful disease puerperal fever or puerperal septicæmia—a disease which in the past has destroyed as many lives as small-pox or cholera, but, as Dr. Lusk, of New York, has truly said: "Puerperal fever differs from either small-pox or cholera in that the latter presses largely upon the aged and very young, while the former (puerperal fever) gathers its victims exclusively from a selected class, viz: from women in adult life, the mothers of families, whose loss, as a rule, is a public, as well as a private, calamity."

Dr. John Bartlett read a paper before the Gynæcological Society of Chicago in which he proposes a substitute for Porro's operation, as follows: "The operation proceeds, as in Cæsarian section, till the child is removed, the actual cautery being used in opening into the womb. Then, instead of dragging the womb out through the

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abdomen, it is dragged out through the vagina. The operator passes a Wells' clamp, somewhat modified in its prehensile surfaces and properly curved in coincidence with the parturient canal, to the fundus of the uterus, and then secures a firm grasp into the uterine tissues. By traction upon the forceps and pressure and suitable manipulation from above the fundus of the uterus is depressed into the body of the organ, dragged through the cervix into the vagina to produce complete inversion. The clamping wire is immediately adjusted and excision of the uterus and appendages effected at a suitable distance from the vaginal junction. The abdominal wound is closed, and attention is given to the stump with reference to hemorrhage, as in Porro's operation."*

Hofmeir, of Berlin, in reporting on the progress of obstetrics and gynæcology in Germany, says there has arisen a good deal of opposition in that country to Credé's method of managing the third stage of labor. But I think these gentlemen will have to bring forward vastly more evidence in opposition to this than they already have, before we can think of giving up this *very reliable* and well recognized procedure.†

Although the leading authorities are very explicit on the subject of the use of ergot in obstetrics, yet I am aware that many physicians still employ it, whenever the labor is tedious, in the first and second stages. I therefore think it is not out of place to mention it here, and will just quote a few words from Lusk on "Obstetrics": "The only imperative exhibition of ergot is presented by the occurrence of *post-partum* hæmorrhage resulting from uterine atony. The unyielding, tetanic uterine contractions which it produces act most beneficially by occluding the orifices of the bleeding vessels. Even under these circumstances it should, however, be withheld until the expulsion of the placenta, lest the uniform uterine contractions lead to its prolonged retention or interfere with manual efforts for its extraction."

GYNÆCOLOGY.

During the past year many steps have been taken in advancing this branch of medicine. Abdominal surgery has been brought to a point that makes us hesitate no longer when the morbid condition demands it. The antiseptic mode of operating, with the enforcement of the

American Journal of Obstetrics, November, 1886.

†*American Journal of Obstetrics*, October, 1886.

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rigid rules in regard to cleanliness has been so thoroughly established that the surgeon would scarcely think of opening the abdominal cavity without having at his command all the latest improvements in this line. Hot water is now considered one of the most valuable agents in the line of antiseptics—it not only acts as such, but to a very great degree prevents shock.

Prof. Wylie, of New York, has reported in the *New York Medical Record* 125 cases of laparotomy in which he used hot water in cleansing out the abdominal cavity, etc., with the effect of very materially reducing the rate of mortality. And Prof. J. H. Scarff, of Baltimore, has done eight cases of laparotomy at the Maryland General Hospital during the year with two deaths. But the first death and the fifth case of the series was in a child of nine years of age, from which a 16-pound cysto-sarcoma was removed from the left appendages. A few hours preceding operation a severe hæmorrhage took place in the peritoneal cavity and the child died two hours afterwards from shock. While much has been done to reduce the death-rate in abdominal surgery, yet we cannot lose sight of the fact that, from an examination of all cases of laparotomy, we find such an overwhelming majority are for the removal of the tubes and ovaries. Can it be that the castrating of women has been carried to an excess, and not enough of attention is paid to the treatment of pelvic inflammations before resorting to this extreme expedient? This brings us to the consideration of the discussion that has taken place during the year upon the subject of pelvic inflammations. Emmett, of New York, read an able paper before the American Gynæcological Association on "Cellulitis versus Peritonitis." He cannot believe that it is proven that cellulitis is a thing of the past, and the large majority of so-called "pelvic abscesses" are fallopian tubes distended with pus, etc. Dr. Scarff, of Baltimore, who has given this matter much attention, thinks that "cellulitis is a rather uncommon disease when not associated with peritonitis, it is of short duration and rarely leaves a chronic abscess. He does not think it justifiable to remove the appendages except under the following circumstances: 1st. An undoubted diag-
of C[illegible]sis of pyo-salphynx, and only one tube should be removed if pus
as follow[illegible] not exist in both. 2d. The appendages should not be removed,
the child is absence of pus, until not less than four to six months of
the womb. T[illegible] treatment with the use of hot water douche daily.

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Iodine locally and glycerite of alum tampons three times a week. If these do not succeed, then we are justified in taking away these offending members."

Intra-uterine medication is the balance of discussion to-day. Mundé, of New York, has recently published quite an extensive paper on the value of this method of treatment, and it has been heartily endorsed by many of the prominent men of the country. The universal opinion of to-day is that the cavity of the body of the uterus should not be invaded by the strong applications of the past, but the cervix demands them still.

The making of a new urethral orifice (Emmetts' Button-Hole Operation) for the relief of certain reflex bladder troubles, is destined to become an operation of great favor, as relief, in most cases, is said to be immediate and permanent. One case, operated on (and reported) by Dr. Scarff at the Maryland General Hospital, is worthy of mention:

Miss A., aged 24, unmarried, was admitted January 28th, with the following history: One year ago began to suffer from symptoms of cystitis, with most painful micturition. All ordinary means failed to give relief, and so annoying did the symptoms become, that the posterior wall of the bladder was laid open in order to explore the cavity. At this juncture her attending physician, Prof. Erich, died, and she was sent to this hospital. An examination under ether revealed nothing abnormal in the cavity of the bladder, but at the urethral orifice, and extending into the urethra one-fourth of an inch, were two deep fissures that were extremely painful and irritated by the salts of the urine. The opening made in the bladder had not been closed. Emmett's Button-Hole Operation was thought advisable, and it was immediately done. It consisted in cutting out a round piece from lower wall of urethra just above end of fissures. The mucous-membrane of the urethra was brought through the opening and stitched to vaginal mucous-membrane with catgut sutures, to prevent closing up of the opening. In three days the effects of the operation had passed away, and with it all symptoms of bladder trouble. The rent in the bladder has since been closed up, and the patient is now convalescing—urinating regularly through the false opening.

Alexander's operation for shortening the round ligament is rapidly

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growing in favor. According to Dr. Polk, of New York, "It affords the most rational method of relieving procedentia."

Dr. Eugene C. Gehrung, of St. Louis, writing in the *American Journal of Obstetrics*, under the head of "A New System of Uterine Medication," describes two instruments which he has invented—one for the application of liquids ("Aspirating Applicator," as he calls it), and the other for the introduction of powders in the uterine cavity. Both instruments are constructed with double canula (one inside the other), so as to allow ready efflux, which has been the great fault with most instruments heretofore devised for this purpose. They promise to add greatly to the safety and effectiveness of intra-uterine medication.

Dr. Miller, of San Francisco, has invented a very unique "uterine repositor." It consists of a thimble (to fit on the end of the index-finger) into which is screwed a stem of any length according to the size of the uterus to be replaced. He says: "It has all the advantages of either the plain uterine sound or any of the jointed instruments thus far recommended for replacing the retro-deviations, and none of their defects. It simply artificially elongates the index-finger, and gives the finger the same power as though the uterus had been previously dilated by sponge or sea-tangle for the purpose of introducing the finger, and then effecting reposition as recommended by B. Shultze. My thimble sound brings the uterus on the tip of the operator's finger, which is at once power and fulcrum, hence strains no tissue or ligament. The uterus being on the tip of the finger, is completely under the operator's control. The force which one employs is keenly appreciated, hence no undue strain is likely to be exerted on adhesions which are too strong to be safely lacerated, or even stretched."*

While many advances have been made in gynæcology, and means adopted for the relief of suffering women, yet death has, too, been showing his power in calling from our midst in the last year some of our highest minds in this field of science. I refer particularly to Profs. Shroeder and Erich, who have been called from labor to rest, and who have left behind them names that will be ever dear to the suffering companion of man.

American Journal of Obstetrics, February, 1887.

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CLINICAL REPORT—VESICO-VAGINAL FISTULA WITHOUT AN ANÆSTHETIC.

By E. S. Ashe, M.D., Wadesboro, N. C.

Mrs. P., aged 25, married seven years; fistula has existed one year.

Owing to the inability of my father, Dr. E. F. Ashe, to be present, I operated on February, 1887, with the assistance of Drs. Carpenter, Dunlap and Kendall. Patient was placed in knee-elbow position, given four ounces of brandy and ¼ gr. sulph. morphia hypodermically. Erich's speculum was introduced, which revealed a transverse fistula nearly two inches in length. With Sims' small knife I beveled the edges. The edge of the fistula, at the point which was most difficult of access and manipulation, was caught by the tenaculum and an incision made from the vesical border outwards to the vaginal mucous-membrane, removing as complete a circle of tissue as was possible. We used the silver wire sutures, passing them half an inch from the incision on the vaginal mucous-membrane to the vesical border, bringing them out half an inch on the opposite side; twelve sutures were used and placed 1-6 inch apart (Sims' self-retaining catheter was left in), which were removed on the tenth day by Drs. Carpenter and Dunlap, who found *complete union*; no urine has passed through the wound, and the patient is rapidly improving in general health. The speculum I used is made on the same principle, but an improvement on Sims'—it is bivalve, so that the vagina can be dilated to its utmost capacity; a screw is attached so that the end of the speculum can be dipped down in the hollow of the sacrum; it also has a circular plate which fits against the sacrum with a tape attached, passing around the shoulder. The operator needs no assistant to hold speculum, and obtains a most excellent view. In paring the edges of the fistula it is much better to make a complete circular incision, so that no undenuded surface or cicatricial tissue will be left. The best time for operating is during the week following the cessation of the menstrual period; if done earlier the flux will be likely to return; if later, precipitated; in either case it is liable to be hæmorrhagic and will mar the success of the operation.

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UTERINE HÆMORRHAGE OF PROBABLE MALARIAL ORIGIN.

By F. W. Potter, M.D., Wilmington, N. C.

Mrs. N. came to the city from her home, in the country, to consult me relative to pain in her right iliac region. She stated that she was the mother of two children, the youngest of whom was 14 months old, and she feared some damage was done her during her last labor; that the pain was not severe prior to three months since, and that she believed, if that was not the cause of her trouble, it was due to lifting her child around, in addition to attending to her children, doing her washing, etc. She appeared to be stronger than most women in her station in life, her complexion was very ruddy and clear, and she was of stout build. She submitted to an examination, which revealed a slight retroversion of the uterus, with tenderness on pressure per rectum; the fundus may have been a little enlarged. I introduced an Albert Smith pessary, but she could not wear it on account of the sensitiveness of her womb. Instead I used cotton pessaries, or packing, with much better results, and in the course of two months her pain was nearly relieved, and she could wear the Smith pessary with the greatest comfort, in fact, would not do without it, stating that while wearing it she did not know she had a womb. She continued to use it three months, and then dispensed with it entirely. She became pregnant in the course of a month or so after leaving it off, and did very well for four or five months, when she suffered again from her old enemy, pain in the flank. Rest was enjoined, as in the first instance, and quinine and elixir valerianate of ammonia prescribed, which had a very satisfactory effect up to within two months of her confinement, when she complained again, and, as she feared considerable trouble with her labor, remained in the city that she might have a physician to attend her. I will hasten to reach the point in question. She did not have, as expected, a hard time, as she termed it; all went off well, except she got up the third or fourth day after her delivery, and walked around considerably, the result being that she was thrown back very much in process of reparation. Some three to five months after delivery she again suffered from pain in her iliac region, more than ever, especially a few days prior to, and after, her menstrual

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flow. (She did not nurse her child.) Regularly every two weeks, beginning about 3 o'clock, hæmorrhages came on, and, strange to say, could not be arrested by ergot, opium, elixir vitriol internally, nor by sugar of lead and alum injections. I prescribed rest in bed, as before, gave quinine, but not with the desired result, until the dose was increased to 40 grains every twenty-four hours, beginning to administer it five days before expected paroxysm, with complete arrest of pain and hæmorrhage. This was the goal I was aiming to reach, but thought a history of the case would be of interest in pointing out the probable cause, and we have come to one conclusion—that it was more or less of a malarial origin, and the great anti-malarial and anti-periodic cured the case.

TREATMENT OF DIABETES.—Dr. Mitchell Bruce, in *Practitioner*, January, 1887, draws attention to the value of the acetate of morphine in combination with strict diet in this affection, the drug being rapidly increased in dose to as much as 7 grains per diem. He found it ineffective when given hypodermically, and infers that in his patient the glycogenesis was hepatic, the morphia acting fully only when taken up by the portal vein. He thinks that by this means we can determine whether the excretion of sugar is due to hepatic or general (muscular) production, or to non-destruction, as in the last two instances hypodermic medication should be as efficient as that by the mouth. He had found little utility in the various supposed remedies which have been introduced of late, including arcenite of bromine and salicylate of soda, but he has pointed out that diabetes in elderly persons is often a very tractable disease, easily controlled by dietetic regulations, and in such cases any drug may appear to succeed. Surgeon-Major Gardner (*Indiana Medical Gazette*, August, 1886,) has recorded a case of diabetes benefited by pepsine in 5-grain doses, given twice daily in conjunction with diabetic diet. Jambal or jequirity seeds, in powder, have been used as a remedy for diabetes. Mr. W. L. Scott, in the *British and Colonial Druggist*, finds that this powder hinders the diastatic action of the malt ferment. The present writer could observe no result from this drug.—*American Practitioner and News.*

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SOME PRACTICAL REFLECTIONS ON FOREIGN BODIES IN THE EAR.

By RICHARD H. LEWIS, M.D., Surgeon for Diseases of the Eye, Ear, Throat and Nose to the Hospital of St. John's Guild, and that of the Leonard Medical School, Raleigh, N. C.

(Read before the Medical Society of the State of North Carolina, at Charlotte, April 14, 1887.)

The idea has suggested itself to my mind that, perhaps, as a general thing, from pride in our Society and our desire to present something worthy of it, we are too apt to think that our papers should embody something original, or should reach the dignity of elaborate essays. As a result, many of our very best men are deterred, either by modesty or a want of time, from contributing, as they should, and under a different impression might, to the interest of our meetings. By throwing the light of their own observation and experience on the ideas and work of others, they could add no little, not only to the interest, but to the value, of our proceedings.

In accordance with these views, I desire to cast in my mite by making

SOME PRACTICAL REFLECTIONS ON FOREIGN BODIES IN THE EAR.

A full consideration of the subject, it will be noted, is not intended. Indeed, it would be contrary to the principles laid down in the beginning. What I wish to do, inasmuch as I have not invented any new and ingenious instrument for their removal, nor devised any new method of using those already in vogue, is to call attention to, and to particularly emphasize, certain things in connec ion with their surgical management. These things are: 1. The importance of being *certain* that there *is* a foreign body in the auditory meatus before any attempt, is made to remove it. 2. The advisability, in attempting its removal, of first exhausting the resources of the syringe and warm water before resorting to instruments. 3. The objections to the use of forceps, and 4. The dangers of doing too much.

It is a well-known fact that children are very much given to putting things in their ears, and some adults have the same weakness, though with the latter the presence of foreign bodies in the meatus is

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nearly always the result of accident. In consequence every conceivable variety of object, from a pea to a jaw-tooth, has been discovered in the aural canal, though such common objects as peas, beads, buttons, cherry-stones, pebbles, etc., are most frequently found. But the physician should never accept the testimony of the child or its parents as to its presence. Nothing should satisfy him but a sight of it with his own eyes—not feeling it with a probe, for many have been deceived by striking the bony wall of the canal. This ocular demonstration, unless the body be situated very near the entrance, cannot be made without some means of illuminating the meatus, and, therefore, every practitioner should be provided with a nest of ear specula and the ordinary perforated concave mirror, attached to a head-band, so that the hands may be free if occasion for their use arise. I almost feel as if I ought to apologize to the Society for dwelling on this matter, but not a few attempts, based on the testimony of the child or its parents, or by better men on the testimony of the probe, have been made to remove foreign bodies which were never in the meatus at all. And there are some cases recorded in which the too eager pursuit of this otic will-o'-the-wisp, if I may be allowed the expression, has caused the death of the patient. Such a termination would be sad enough if the result of a well-directed effort to remove something which might be dangerous if allowed to remain, but when the consequence of a crazy chase after an *ignis-fatuus*, it is exceedingly deplorable, to say the least.

When it has been ascertained, beyond peradventure, that there is a foreign body in the canal, a judicious effort should be made to remove it. The first step *always*, with exceedingly rare exceptions, in this judicious effort, is the faithful and correct use of the syringe and warm water. I say *correct* use of the syringe, because the neglect of certain apparently trifling details will, in very many cases, make all the difference between success and failure. These details are, first, that the syringe should have a reasonable amount of power. The common glass syringe does not act well, but in the absence of a regular aural syringe, the Davidson will answer fairly. But no physician should be without the ordinary hard rubber aural syringe, which can be bought at any well equipped drug store for seventy-five cents. Secondly, the nozzle should be quite small, so as to concentrate the force of the jet as much as possible. In this respect the Davidson is defective. A small nozzle can be made by drawing out a glass tube in the flame of

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a spirit lamp, smoothly sharpening a reed of small calibre, or, best of all, if it be at hand, by slipping one end of a piece of very small india-rubber tubing, or flexible catheter over the large nozzle. One special advantage of the tubing is that, being soft and flexible, it can be pushed close up to the body without risk, and the full force of the jet in that way obtained. Thirdly, the meatus must be *straightened* by pulling the auricle firmly upwards, backwards and outwards, and holding it in that position, while, fourthly, the stream is directed forcibly against the wall of the canal quite close to the body. The upper wall is to be preferred, as a rule, but if that fails, it should be tried against the other walls in turn. Although the body may fill the meatus so that no water can pass beyond it, still the whirling motion of the latter will often loosen and dislodge it. In fact, in an immense majority of cases, especially when the body is in the outer or membranous portion of the meatus, as it is almost sure to be if it has not been tampered with, the syringe will prove effective In order to give the syringe a fair trial, it must be remembered that it should be used with considerable force. The presence of the foreign body will prevent any damage to the tympanum.

This method failing, the following may be tried: Make a clean stick of the proper size and adapt one end, as nearly as possible, to the shape of the presenting portion of the foreign body. See that the body is thoroughly cleansed and *dried*, more especially if there be discharge. Dip the fitted end of the stick in melted glue, and, quickly applying the same, hold it firmly in position until the glue hardens. If, upon withdrawing the stick, the pea or bead, or whatever it may be, does not come with it, the only thing left is a resort to instruments. The instrument one would most naturally think of is the forceps, but the forceps, as a general thing, is objectionable, for the following reasons: The bodies commonly found in the aural canal are usually more or less spherical, and they are, besides, nearly always hard—so hard that the teeth of the forceps cannot easily engage their surface. They are, too, for the most part, of sufficient size to completely, or almost completely, fill the meatus. In consequence it is very difficult to find room for *both* blades of the instrument to pass between the body and the walls of the canal, so that when the forceps is closed, the teeth, instead of falling on the opposite ends of a diameter, impinge upon the convexity of the outer half. The substance being too hard for them to take hold, they slip off, and, as a consequence, the object is pushed

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further in. "Hope springs eternal in the human breast," and we are very prone to think that the next time we will certainly succeed, and so, repeated efforts are made, until the body is pushed beyond the isthmus, and then its descent to the drum is very easy. Knowing from my own experience how very apt one is, in the rush of active practice, to forget anatomical details which are not daily brought to his notice, I shall take the liberty of calling attention, just here, to the fact that the external auditory meatus is narrower a little beyond midway than at either end. In its relation to our subject this is a very eloquent fact, for any one who keeps it in mind will be very careful in his manipulations not to urge the foreign body beyond that constriction.

The most efficient instrument is a vectis, or hook of some kind, the best, probably, being the fenestrated curette. An admirable instrument is the forceps devised by Guye, of Amsterdam. Being simply the obstetrical forceps in miniature, each blade is a fenestrated curette, and can be used separately as such, but it is better in many cases to introduce the second blade also, while the foreign body is held in place by the first, and, locking the two, to extract it. Gross' curette, which has a tooth at one end, is a simple and useful instrument. But fenestrated curettes, Guye's forceps, and such other special appliances for this purpose, do not usually constitute a part of the armamentarium of even the most advanced physicians, so that the matter practically narrows itself down, after all, to doing the best possible with the means at hand. A bent probe will often make a very effective hook, and every one has a probe. If mislaid, there are very few who cannot extemporize a hook of some kind, or a wire loop, which will answer to the fenestrated curette. The point to remember is that no means should be used which is liable to push the body any further in. And it should never be forgotten that no hard instrument ought ever to be introduced into the ear except under a full illumination, and the surgeon should never take a step unless he can *see* what he is doing.

In the fourth place, I wish to call attention to the fact that foreign bodies in the meatus are by no means such serious matters as is often thought. "Experience has taught," says Politzer, "that the consequences attributed to foreign bodies are, with few exceptions, due to the awkward attempts made at extraction by non-professional hands." He mentions the case of an old man from

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whose ear he removed a slate-pencil which had lain quietly unnoticed in the meatus for fifty years, and he also cites a case in which a pea remained for two years without exciting pain or inflammation. Unless the foreign body excites unpleasant reflex symptoms, as it sometimes does, those symptoms varying from a cough to marked interference in the nervous functions, and the syringe fails to dislodge it, it is often better for one not prepared with the necessary apparatus to do the work properly, to omit any attempt and let it remain. Remembering the statement of Politzer, cited above, we should make it a point, as occasion arises, to educate the laity in this matter by impressing upon them the risk of any one's attempting this apparently simple and trifling little operation who does not know exactly what he is doing. But according to the statistics unfortunate consequences have, in a few instances, followed efforts at extraction made by members of the profession. It therefore behooves us to bear in mind the exceedingly important relations of the tympanum, and never to permit the fear of failure, or the desire to succeed in accomplishing an object, to cloud our judgment. Such a caution, I am sure, is not needed by my hearers; but the idea of failure, even in the smallest matter, is so galling to some temperaments, and the courage necessary to its candid admission is, oftentimes, so great, that it may not, after all, be superfluous.

Ichthyol in Erysipelas.—In a late paper by Prof. von Nussbaum, of Munich, on "Erysipelas," the author speaks very highly of the use of ichthyol, in the form of an ointment, made of equal parts of ichthyol and vaseline, to be painted over the whole erysipelatous area, then covered with ten per cent. salicylic lint, and fixed with a gauze bandage. In erysipelas of the face ichthyol collodion is to be preferred, and on the hairy scalp, ichthyol soap.—*American Practitioner and News.*

Perhaps it is not generally known that the disagreeable effects which a sea voyage or a railway journey have on some persons can be averted by getting the patient under the effects of a bromide before starting, and continuing in small doses during the trip.—*College and Clinical Record.*

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SELECTED PAPERS.

THE ADMINISTRATION OF GASEOUS ENEMATA.

A large share of professional and public attention has quite recently been directed to the administration of gaseous enemata for the treatment of blood-poisoning and of affections of the respiratory passages. The object in view is to supply to the venous circulation an antiseptic, such as hydrogen sulphide, in sufficient doses to be effective; a result impossible when supplied directly to the arterial current, a plan which would poison the patient. Hydrogen sulphide, inhaled in far less than sufficient doses, would suffocate the patient; taken by the stomach, it would produce other serious results. Administered by the bowels, however, and entering the venous current, already deteriorated by organia refuse, it is quickly eliminated by the respiratory tract, which thus becomes subjected to its beneficial local antiseptic effects without subjecting the system at large to injury, as when thrown into the arterial current. In other words, the parasite is killed, without killing the individual. Its beneficial effects in phthisis are explained by the action of the gas on the suppurative and septic surfaces, and not by any influence on the bacillus tuberculosis; the consumption proper, the exhaustion, being due to the suppuration and to the consequent septicæmia, and not immediately to the bacillus, which, while it produces the destruction of tissue, does not produce the morbid phenomena. The method of administration utilizes the discovery announced by Bernard in 1857, that toxic materials introduced into the economy through an organ at a distance from the arterial system could not penetrate into the arterial system because it is eliminated before that system can be reached. Volatile substances are eliminated by the pulmonary alveoli.

On July 12th, 1886, Dr. Bergeon communicated to the French Academy of Science the results of several years' investigation into the method, and Prof. Cornil also presented later a paper on the subject. The forms of apparatus at present in use are based upon designs furnished by Dr. V. Morel, of Lyons.

Various antiseptic gases and vapors have been tried, but abandoned, on account of local irritant action, but a mixture of carbon dioxide

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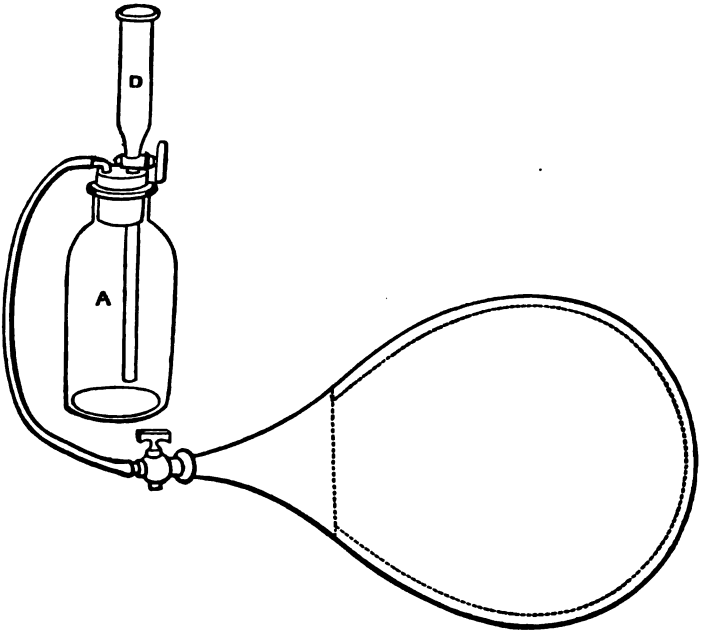
(carbonic acid gas) and hydrogen sulphide (sulphuretted hydrogen) is entirely harmless when properly used and completely deprived of atmospheric air.

Since the object of this article is entirely practical, it will not be necessary to discuss the physiological action or the therapeutical theories involved. There will simply be presented descriptions of the more recent forms of the apparatus and of the method of use.

The apparatus exhibited in the accompanying cuts was designed by Mr. J. A. Kyner, Superintendent of the Polyclinic, in imitation of one of Morel's apparatus lately imported by Dr. J. Solis-Cohen.



The apparatus, as constructed by Dr. Kyner, is now in use at the hospital of the University of Pennsylvania, German Hospital, Home for Consumptives, and by quite a number of private practitioners, and the form is now manufactured by Messrs. J. W. Queen & Co., of this city.

The apparatus consists of a generator, a reservoir, a bulb apparatus for injection, and a vessel for holding the sulphur water. To generate the carbon dioxide, put one avoirdupois ounce of sodium

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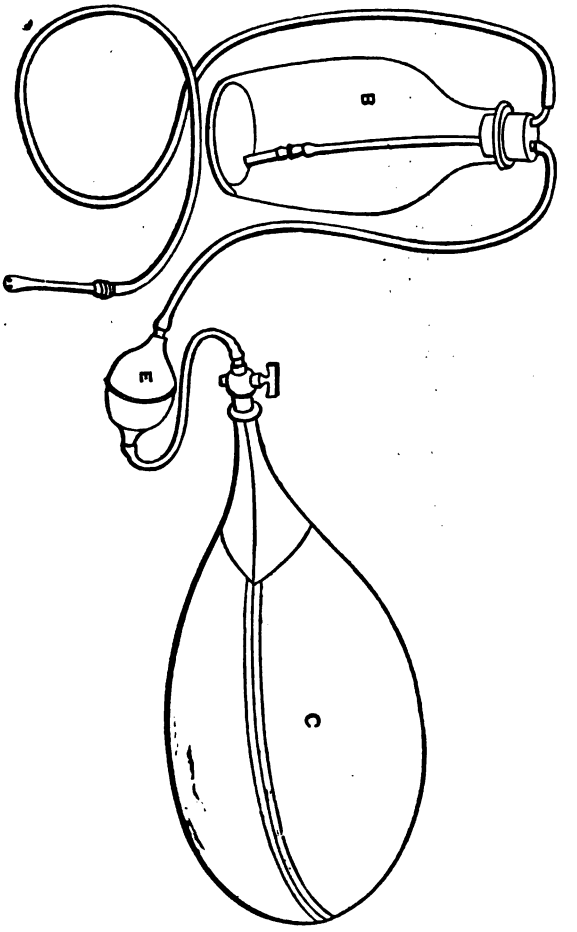
bicarbonate and one fluid ounce of water into the wide-mouth jar; close the jar with the rubber stopper carrying the funnel-tube and short delivery-tube. Fill the funnel with dilute sulphuric acid, made by adding f ur fluid drachms of strong acid to four fluid drachms of water. By means of the stop-cock on the funnel-tube,



allow about a teaspoonful of the acid to run into the bottle so as to generate sufficient gas to expel the air in the bottle. Then, having rolled the reservoir tightly to exclude all air, connect it by means of the rubber hose to the generator, and continue the slow addition of

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the acid from the funnel-tube until the reservoir is filled. The quantities above given for charging the generator will be found about sufficient to fill the reservoir. Dr. Bergeon recommends that the acid be prepared at the bedside, but Mr. Kyner has used it entirely successfully after being kept six hours in a heavy vulcanized rubber bag, such as is now furnished; but Dr. Bergeon used a lighter bag, which had not the power of resisting diffusion. This, probably, explains the difference in results. When the reservoir is filled it is detached from the hose and the stopcock immediately closed.

To administer the gas, the reservoir is attached to the free end of the syringe bulb; the wash-bottle being about three-fourths filled with sulphur water, is stood in a basin of warm water and closed by the rubber stopper carrying two tubes, attached to the other end of the syringe bulb. The stopcock of the reservoir is opened and sufficient gas forced through by means of the syringe bulb to expel the air from the wash-bottle and tubes; the hard-rubber vaginal syringe pipe is then well inserted into the rectum and the gas pumped very slowly. From one to six quarts is the amount administered according to circumstances. From four to five minutes should be allowed for the injection of each quart. The patient should lie on the right side or on the back. Should any difficulty occur from the escape of gas from the rectum, the patient's legs should be extended so as to compress the sphincter.

It is the universal statement of patients that the injection can be given more satisfactorily and with less uneasiness when the bowels have been emptied. Two injections a day should be given. Since the injection interferes slightly with digestion, it should be given either one hour before or three hours after a meal. No pain except that of slight distention of the bowel is felt unless air is present in the apparatus. The natural sulphur waters used in this city are the Red Sulphur Springs of Virginia, and the Mount Clemmens water of Michigan; the latter is to be preferred since it contains about ten times the available sulphur compounds. The same portion has been used satisfactorily for three consecutive injections, and still smelled strongly of the gas. Although artificial waters have been said to cause pain, the following formulæ have been used without any difference of effect from natural waters having been noticed by the patient:

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℞. Sodium sulphide, pure,
Sodium chloride,..... āā gr. v
Water..... f℥ xxij. M.

This is the formula first used at the Philadelphia Hospital. The hydrogen sulphide is formed by the action of the carbonic acid on the sodium sulphide substantially according to the following reaction:

$$Na_2S + H_2CO_3 = Na_2CO_3 + H^2S.$$

When pure sodium sulphide is not attainable, the *potassium sulphuretum* or corresponding sodium compound may be used. These must be used in rather larger proportion, and produce an objectionable white precipitate of sulphur.

When a stronger sulphur water is desired than that produced by the above formula, the following may be used:

℞. Sodium sulphide, pure..... gr. x
Dilute hydrochloric acid, U. S. P..... ℥xxx
Water..... f℥ xxii.

Mr. Kyner, who has proposed this formula, prefers to keep the liquid on hand after use, and freshen it up for subsequent use by additional quantities of sodium sulphide and dilute hydrochloric acid. This freshening up should be done whenever the liquid ceases to smell of the hydrogen sulphide. A liquid so kept seems to acquire more nearly the characteristic odor of the natural water. If the sulphur water is of sufficient strength, the patient's breath will, in about five minutes after beginning the administration, darken lead acetate paper, and will continue to smell of gas for an hour after the process is discontinued. It may be well to remark that metals, especially silver, are readily tarnished by the sulphur gases.

The method has, up to the present, been used upon about one hundred cases in this city without any untoward effects, so far as known, except in one or two instances, one of which was due to a leaky bag, and another to incorrect administration.

It is, perhaps, too soon to decide positively on the therapeutic value of the new method, but it seems in the experience in this city to have the special quality of diminishing night-sweats and improving the appetite.

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In Bergeon's cases the trifling expectorations of those apparently practically cured continued to contain bacilli. This fact may be taken both for an indication that the immediate danger in phthisis is less from the bacilli than from the septicæmia which they set up, and as an indication that this protective treatment, when successful, should not be discontinued until the general healthiness of the tissues is sufficiently restored to resist the further development and sustenance of the bacillus tuberculosis.—*The Polyclinic.*

One difficulty with Bergeon's method of treatment in private practice is the cumbersomeness of the apparatus and the skilled labor required for the preparation of the carbonic acid. A plan which would avoid this and reach the same result in regard to the lung-disease is certainly a desideratum.

According to Gay-Lussac and Thénard, water at 52° Fahrenheit will absorb three times its volume of sulphuretted hydrogen. To prepare this solution, the gas, previously washed with water, is passed alternately through each of two bottles half filled with water; while it is being passed through one, the other is closed with the stopper and shaken, to insure complete absorption; and thus the process is continued till the water is completely saturated. One of the bottles is then completely filled with the liquid, and removed with the mouth downwards. The resulting solution is a colorless liquid, having the odor of putrid eggs and a sweetish taste. When heated it evolves the whole of the gas. Bottles containing the solution of the sulphuretted hydrogen should be habitually laid upon their side.

A priori, there is no evident reason why this solution, if injected into the rectum, and found it free from any irritant action. The habitual use of injections two or three times a day is, however, very disagreeable to most patients, and the questions naturally arise, Is there any necessity of administering the drug by the bowels, and Will not sulphuretted hydrogen water be taken without too much repugnance by the mouth and without nauseating? At the various sulphur springs large quantities of such water are habitually drunk by the patients. Led by such considerations, I have tried the sulphuretted hydrogen water in as many cases as I have been able to get, and so far, when properly given, it has been usually taken

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readily, and has not disagreed with the stomach. Some persons, however, will not tolerate it at all. The effects upon the disease have seemed to be entirely similar to those produced by the injections. At first a half-ounce, afterwards an ounce, of the saturated solution of the sulphuretted hydrogen should be placed in a tumbler, and two or three ounces of carbonic acid water be run into it from a highly-charged siphon, the whole being drunk while effervescing. This may be given three to five times a day, so that the patient will receive daily between a half-pint and a pint of the sulphuretted hydrogen gas. Injections of gas into the rectum produce in some persons more or less violent attacks of colic, especially if given at a time when the food is well down in the intestinal tract. Thus, in the case of Mrs. L., the night injection caused so much pain that it could not be borne, although the injection in the morning was actually pleasant. The two methods of administration were then combined, the gas injection being given in the morning and the sulphuretted hydrogen water in the afternoon and evening. Within the last forty-eight hours, at Mrs. L's earnest request, the gas injections have been entirely abandoned in favor of the exhibition by the mouth. Of course the two methods are simply different ways of accomplishing the same result, and may be variously combined or substituted for one or another, according to the peculiarities of the individual cases within the last day or two.

It is a matter of the greatest importance to fix definitely the dose of sulphuretted hydrogen gas. With the method employed in the Philadelphia Hospital this cannot possibly be done. The solution employed in the Hôpital Cochin, whose formula is given in the first part of this article, seems to be superior to the solution of the chloride and the sulphide of sodium, in affording known quantities of sulphuretted hydrogen. Even with it, however, the chemical reactions are so slow that practically it is scarcely possible to decide how much of the gas is evolved in a brief time. The substitution of sulphuric for tartaric acid would largely obviate this. When the medicine is given by the mouth exact dosage is possible. In Mrs L. five-ounce doses appeared to be too much. She is now taking three doses daily.

In a recent number of the *British Medical Journal* it is stated that M. Morel affirmed before the Biological Society of Paris that the dose of the gas is twenty-five cubic centimetres. That it is not

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incapable of doing harm is shown by the experiments of M. Peyron, who injected into the rectum of a dog one hundred and fifty cubic centimetres of a saturated solution of sulphuretted hydrogen in two doses at intervals of three minutes. Symptoms of poisoning began to be manifested within two minutes, and death took place within ten minutes, Another dog died quickly after two injections of the same strength, given at intervals of twelve minutes, while two others, in whom only very small quantities of the gas, or large quantities very much diluted, had been injected, experienced only slight inconvenience, and rapidly recovered. Not long since, in the University Hospital in Philadelphia, about one quart of a mixture containing equal quantities of carbonic acid and sulphuretted hydrogen were injected into the rectum of a patient; within three minutes the man was unconscious and apparently dying. The breathing rate was one hundred per minute, and the respirations so shallow that they could scarcely be observed. The pulse at once became very rapid and feeble, and even imperceptible at the wrist, while a very marked odor of sulphuretted hydrogen appeared in the breath. Under treatment the symptoms all subsided in about fifteen minutes. The rapidity with which these symptoms developed and with which they subsided indicates that when the gas is thrown into the rectum its effect is very immediate and fugacious, and it is entirely possible that the more continuous influence of rectal injections of the aqueous solution of sulphuretted hydrogen may act better in pulmonic diseases than does the short influence of the gases now administered. Of course poisoning by over-doses of sulphuretted hydrogen is no more valid objection to its proper use than is opium-poisoning to the employment of opium.—*Therapeutic Gazette.*

Prof. Da Costa recently presented to the class at the Pennsylvania Hospital a typhoid patient having a most marked jaundice in the third week of the disease. This is a very rare occurrence, and in this case was due to a catarrhal process going on in the biliary ducts. His treatment was gr. iij of sodii bicarb. and gr. $\frac{1}{8}$ calomel, every two or three hours, with favorable results.—*College and Clinical Record.*

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THE BEST TESTS FOR ALBUMIN, AND SOME POINTS RELATIVE TO URINARY EXAMINATIONS.

By Henry B. Millard, M.D., A.M., Etc., New York.

* * * * * * * *

THE BEST TESTS.

Nitric-acid test.—The Clinical Society of London last July reported that it found this, all things considered, the best test, that is, the most reliable and delicate, and with proper precautions it is, in many cases, highly satisfactory. To employ this another precaution besides clarification is often necessary; however clear the urine, if urates exist in excess, they form with this reagent a turbid white zone above and in contact with it; this is not usually very dense in appearance, the part next the acid being, as a rule, most dense, the upper portion less so; sometimes, indeed, when with an excess of urates albumin is present, this latter will be seen as a sharp line below the zone produced by the urates, but the discrimination is not always easy. And permit me here to say that if, in referring to methods of using reagents, etc., I state some facts which should be familiar to every tyro in medical practice, it is not because I impugn mentally the high intellgence of the audience I have the honor of addressing, but because these facts form a natural and indispensable part of the context. When there is reason to suspect the existence of an excess of urates these may be dissolved before testing by letting the test-tube stand in hot water, not boiling, as this coagulates albumin, but having a temperature somewhat under 140° F., albumin coagulating at and above this figure. There is now no danger of this zone being formed, and a drachm or so of the acid being placed at the bottom of the tube, which is better for having a diameter of as much as three-fourths of an inch, the urine should be allowed to trickle slowly down upon it. If much albumin be present, it is quickly coagulated by the contact, and a white, lardaceous layer is at once formed. We will suppose that all the directions I have given have been followed, the test-tube is held before a clear, bright light, a book or some dark object is held before the layer of acid, but no sharp line appears, nor white layer nor cloud of any kind. We must by no means conclude that albumin is not there, but allow the urine to stand five, or even ten or fifteen,

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minutes; then, sometimes, we shall then find a thin, clear, sharp line visible only upon careful scrutiny, and perhaps underneath it a colored zone produced variously by uric acid, biliary acids, iodine should the patient be taking iodide of potassium, etc., and above the albuminous ring, sometimes half way between it and the surface of the urine, an irregular ring of less density, probably mucin. If the urine be allowed to cool we may find four distinct zones: first, the orange-colored one, then one albuminous, the next formed by the urates, the upper one mucin. Dr. (now Sir William) Roberts says the mucin zone can be recognized by twirling the test-tube, when it will become diffused, while the albuminous layer will not. "Traces of mucin in a state of solution," says this author, "seem to be present in all urines, healthy and morbid, and this occasions more frequent embarrassment than any other substance." Nevertheless, nitric acid is troublesome, as giving a reaction when mucin or the elements in question are present. Still, according to Roberts, it is easily distinguished from albumin by being precipitated by weak, but not by strong, nitric acid and by forming a zone at some distance *above* the acid. When, however, mucin and the substances which pass for it are present in abundance, the discrimination by nitric acid is by no means simple. This reagent has the merit of not precipitating peptones or protein bodies. It produces a precipitate when resinous oils, as copaiba, cubebs, etc., are being taken, but this readily disappears on adding alcohol.

The *nitric magnesian test*, as I shall term it for the sake of brevity, is a modification by Dr. Roberts of the test by pure nitric acid, and is described in an article by him in the *Medical Chronicle*, October, 1884. It is prepared by mixing one part of pure nitric acid with five parts of a saturated solution of the sulphate of magnesia, and filtering. The principal advantages claimed for it by Dr. Roberts are that it does not stain nor soil the fingers, that it does not show a coloration with iodine, and, most of all, that it is a more delicate test than pure nitric acid. It is used the same way as the latter, a drachm being poured into the bottom of the test-tube, holding this nearly horizontal, so that the two liquids do not commingle, since if they do the mucin and albumin are precipitated together, but otherwise are precipitated at different points.

I have used this reagent with chemically pure blood-albumin, made for me by Merck, of Darmstadt, and with a large number of

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specimens of urine, acid, alkaline, containing mucin, pus, the *débris* and dissolved elements found in inflammatory conditions of the vagina, bladder, etc., first, of course, freeing as thoroughly as possible the urine from these substances, and do not, from my own experience, at least, hesitate to pronounce it, as regards delicacy, accuracy and facility of employment, the most satisfactory test I have yet used. I have been able to discover by it albumin in the urine of chromic interstitial nephritis when no other test but Tanret's, or the equally sensitive one introduced by me of phenic and acetic acid and potash, would show it, and in the clarified urine of the male where the urine was remarkably clear and there was no inflammation, when it was not shown by nitric acid. In an extensive series of experiments made by me to determine the delicacy of certain tests, many of which were published in the *Medical Record*, in 1885, I found that nitric acid would not show more than one part of albumin in 100,000, that is, 0.163 grain to the litre, and I find that the nitric-magnesian test will show a smaller proportion.

It is not of much importance, everything else considered, if the amount of albumin do not exceed one part in 10,000, that is, one one-hundredth of one per cent. (equal to 1.63 grain to the litre). If urine containing about one-tenth of one per cent. of albumin be diluted with distilled water, so that it will contain, say, one one-hundredth of one per cent., the nitric-magnesian test would usually be found to form a layer not more than one-half as thick as that produced by nitric acid, but much more compact and dense. Now, the former test possesses this very great advantage: that it condenses more thoroughly the albumin than does the nitric acid. It often happens that the zone produced by nitric acid will be light and fluffy, mucin or the substance I have so often referred to being directly in contact with it in considerable quantity, while that produced by the nitric acid and magnesian test would be condensed, compact, lardaceous and clearly and sharply defined, the precipitate produced by the obnoxious elements being distinctly separated from it. This advantage I find in nearly every instance; a double advantage, as it not only shows clearly the presence of albumin, but makes it possible to determine with sufficient approximation the percentage of albumin contained in the urine. If every precaution be taken, Hofmann's and Ultzmann's rule—that of a sharp, clear layer of albumin every three millimetres (about one-tenth of an

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inch) in thickness, indicates one-tenth of one per cent. of albumin—is sufficiently exact for clinical purposes. I have repeatedly verified the excellence and convenience of this rule; the nitric acid, however, often condenses the albumin so imperfectly that an albuminous zone, which, from its imperfect concentration, has apparently a thickness of two or three lines, does not really represent more than *one* line. The nitric-magnesian fluid produces such a compact layer that it can be taken with more confidence as a basis for the estimate of the quantity of albumin. In regard, once more, to the delicacy of this test, I have found it to show the presence of albumin after diluting it to a point where nitric acid ceased to show it, and have occasionally found it to show albumin when even Tanret's test did not. From my experience I believe it to be easily a third more sensitive than nitric acid; that is, if this last test would show one part in 100,000, the test in question would show one part in 150,000. I must not, however, omit to state that this test cannot be used with urine that has been clarified with liquor potassæ, as a dense precipitate is at once formed, owing to chemical decomposition. The urine can, however, be sufficiently cleared by thorough filtration.

Other experimenters may find some, though I think not many, objections to this test that I have not. Yet who is there that has not, in a long medical experience, seen most promising, nay, apparently unassailable discoveries, disclose vulnerable points to the uncompromising test of continued experience?

Happy is he who does not in time find the value of his discoveries in our divine art vanish like the actors in the comedy of the "Tempest," "melted into air, into thin air," leaving "not a rack behind."

Heat, although somewhat more sensitive than nitric acid, I regard as one of the most cumbrous of the important tests. It shows phosphates, which are, of course, easily dissolved by acids; but if albumin exist only in minute quantity, this is liable to be so diffused by the addition of anything as to render it invisible. Then, if the urine be too acid or too alkaline, it must be made less so, and it is sometimes very troublesome to add exactly the proper quantity of acid or alkali. There is also this very great advantage, that when the necessity exists for adding acetic acid, even if the urine have been thoroughly clarified, this acid produces a reaction due to the precipitation of anatomical elements in solution when the urine contains mucin, vaginal, or other

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epithelia, etc. The turbidity, though often slight, is sometimes very considerable, in either case it being impossible to employ heat with entire, if with any, satisfaction. Without any of the troublesome anatomical elements I have mentioned being present, acetic acid may produce turbidity with peptones or other proteid bodies. I have found this to be the case with numerous artificial peptones, and with urines which gave the reaction of peptones with picrid acid; the cloudiness thus produced disappearing by heat. Citric acid is preferable as an acidifying agent, since it does not give reactions with peptone, though it does with mucin, dissolved epithelia, etc. Dr. Roberts claims that heat can be made to show one part of albumin in two hundred and fifty thousand parts of urine, but I have not been able to recognize, after much experimentation, that it shows more than one part in somewhat more than one hundred thousand. I will sum up with reference to this test by saying that, though it is often a sensitive and excellent one, there are circumstances which sometimes render it unavailable, and at best it requires more work and precautions than the nitric-acid or nitric-magnesian test.

There have appeared within a year or two several articles in medical journals on what might be termed *ready methods of discovering casts*. How with the greatest facility to find casts as well as renal and pelvic epithelia, and how to find them at all, if they exist in very limited numbers, like Virgil's shipwrecked mariners,

. . . "rari natantes in gurgite vasto,"

is certainly a matter worthy of consideration. If casts and renal epithelia be numerous, the problem solves itself; but there are many cases, especially of cirrhotic kidney, where the specific gravity of the urine is low, in which casts and renal epithelia will sometimes be temporarily absent, and when present, exist in such small numbers as to require much time and patience to determine whether they exist or not. These bodies will be often held in suspension in the light cloud of mucin which is formed in nearly all healthy, or comparatively healthy, urine, and are sometimes also prevented from forming a deposit by the bacteria which agitate the urine, so that it will often happen that in ten or twelve ounces of clear urine of low specific gravity it is very difficult to obtain much deposit. The plan I formerly pursued was, in cases where the sediment was scanty, as in polyuria, where the specific gravity was very low, to

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add to the urine about ten per cent. of a one-half of one per cent. solution of chromic acid, this effectually preventing decomposition or the development of organic life; then mixing, after the urine had stood a considerable time, half a drachm or so from the bottom of the beaker with a little glycerine, and letting the watery portions evaporate, the glycerine would hold everything of a sedimentary nature. This method is satisfactory enough; but a great deal of time is required. I am indebted to Méhu for a method of obtaining with facility, *en masse*, all the organic and inorganic matter in the urine, and this process I have come to consider almost indispensable. I believe I can, however, best give his method by translating his own words:

"The acetic-acid solution of the iodide of mercury and potash (Tanret's test) facilitates in an eminent degree the reunion of urinary sediments, partly by combining the anatomical elements in suspension, and partly by rendering inert the bacteria and various vibriones which prevent a deposit of anatomical elements. In many healthy or pathological urines it happens, indeed, that the sediment remains in suspension, like a cloud, in the liquid mass. In order to examine this by the microscope it becomes necessary to withdraw a portion of this cloud by means of a pipette introduced into the floating mass, this mode, however, presenting many inconveniences. To obviate this, it is only necessary to add to the urine two or three per cent. of its volume of the iodide of mercury and potash, to agitate the liquid and to let it rest. The uric acid mingles with the sediment. When the urine is albuminous or loaded with peptones, only from a drop to a few drops need be added to produce the desired effect, too large a quantity of the reagent occasioning a too voluminous deposit." ("Sur la Recherche de l'Albuminose ou Peptone," *Annales de Maladies des Organes Génito-Urinaires*, May, 1884).

As there is "no royal road to learning," so there is none to the discovery of casts and renal epithelia under certain circumstances; the method of Méhu is without objection, and concentrates in a short time into a small compass everything in the urine needing recognition. Still, even with the deposit thus concentrated, it is necessary in many cases to "put up" several drops, and employ long, laborious and patient research before being able to arrive at an assurance of the presence or absence of the suspected bodies.—*Medical Record.*

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THE DIETARY OF PHTHISIS.

By J. Milner Fothergill, M.D., Edinburgh.

Probably there is no disease to which mankind is liable—not even excepting gout and diabetes—in which the dietary is more truly important than phthisis. The term means "wasting" or "consumption," and, though too much regarded at the present time as a "disease of the lungs," pulmonary complications are not essential to phthisis. It matters not whether it is prevention or cure, the dietary in phthisis is quite as important as medicines themselves.

Ten year's experience as physician to a Chest Hospital has taught me very vividly what was suspected from previous experience, viz: that the most hopeless case of phthisis is that where there is a steady emaciation going on which nothing can arrest. At last, and only at least when the end is close at hand, mischief declares itself in the lung-apices. Far less serious, though quite grave enough, is the opposite case, where a large portion of the upper part of one lung is consolidated and threatening to break down; but where the digestion and assimilation are good and the nutrition of the body is well maintained, the latter case not unfrequently does well.

We know that muscular fibre is a loose combination of albumen and fat; and as fat is a component factor in muscular histogenesis, so fatty degeneration is a histolytic change which is normal in the uterus after parturition, and the means by which involution is brought about, as well as the end of an hypertrophied heart when the nutrient arteries of the heart are occluded. Fat is necessary to the building up of healthy tissue; and in phthisis, whether threatened, existent in the early stage, or softening of the morbid area is on foot, or even when a cavity has formed, the dietary should be as rich in fat as the assimilative powers of the patient will permit, and to the utmost limit of tolerance on the part of the stomach. In the nursery, the children in whose veins lurks the taint of phthisis should be carefully brought up on milk and hominy or oatmeal porridge. And why are oats and maize chosen for the nursery? Because they "make bone," which is the special property of oatmeal, the old Scotch folk thought. We now know only these two members of the cerelia are selected—albeit by a blind instinct—because they are the richest in fat. Wheat and barley, rice and rye, are well enough,

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but they lack fat. The milk contains, *i. e*, when it has not been carefully skimmed, a certain amount of fat; but then it is not an uncommon practice for the dishonest milk-vender to take a certain amount of cream from his milk before retailing it; or even to add equal parts of skimmed milk to fresh milk. The caseine is there; the milk-sugar is there; the salts are there—but the fat is wanting to a great degree. Jam and treacle and honey and sugar are all well enough in the nursery in addition to plain bread and butter, porridge and puddings made of milk and some farinaceous matter. But the fat must not be forgotten, that is, not *une quantite negligiable* by any manner of means.

What is now being said about the dietary of the nursery applies to later child-life and adolescence. The bread and butter of the nursery too frequently is cut off in thick slices and the butter spread over one aspect, more or less liberally. Why should this be so? Why should "company" bread and butter alone be cut thin? Laziness is at the bottom of it. Laziness that does not take the trouble to realize that it is practically murderous. That its victims will be slowly tortured to death by a lingering disease; that all the torture, the discomfort, the disappointed hopes, the regrets of the survivors may be averted by a little consideration is a dream undreamt. No. That laziness is too ignorant, too contentedly ignorant in its own self-satisfaction to doubt the propriety of what is being done. The careless nursery maid has never read that pregnant sentence of Nathaniel Hawthorne: "The little regarded truth that the act of the passing generation is the germ which may and must produce a good or evil fruit in a far distant time." Or if she has, it has not struck her that it applies in any way to her when cutting bread and butter! Yet company bread and butter doubled is far better tolerated by the touchy little stomach than a hunk of bread which carries a solid layer of butter upon it. And very often the little mite may be thankful that the butter is there at all. A good many poor little atomies of strumous infants do not get the butter in liberal supplies. Of course the law draws a distinction betwixt willful murder and death by misadventure. Before the day when advancing knowledge could tell us of the cardinal importance of fat in the building of the tissues of delicate children the blame which attached to the laziness was venial compared with what attaching to it now is when knowledge is enlightening us.

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A wise and proper dietary in the nursery would have saved many a consumptive now slowly perishing, fighting a losing fight, in the Yellowstone region, the high Swiss valleys, along the coast of Florida, or in the Riviera or Egypt. The farmer always believes in the young cattle that have been liberally fed, or, in bucolic phrase, "well done to" in early calf life. As a physician who has had special opportunities of seeing phthisis, I prefer as patients those who have been judiciously reared in the nursery, when any risky phthisis is looming up. To supply fat to the growing organisms sometimes a little cunning is necessary. The child does not like even the sight of a piece of animal fat, it revolts at the mere appearance, much less ever tries to eat it. The sweet slice of fat, so toothsome and acceptable to those of stronger digestion and more capable assimilation, is repugnant to these more delicate organisms. Let that be the second fact to be borne in mind in the reformed dietary of the nursery. Fat must not be offered in visible, tangible form, except as butter. It must be hidden. The potatoes must be mashed with liberal quantities of milk and butter warmed, if cream be beyond the purse. Then finely minced fat must be liberally supplied to the suet pudding (which is all the better for having some treacle in it—just enough to give a light cinnamon-brown hue). Bread and butter pudding is an admirable nursery food. When the milk pudding is being served it is well to stir in a good lump of butter; though it must be admitted that this is detrimental to its appearance. But, surely, where is the mother who would weigh her child's existence and the appearance of a nursery pudding in the same scale? Perish the unnatural thought! Where economy is the order of the day, rice stewed with cracked bones is at once palatable and highly nutritious.

Where the assimilative powers are very feeble, then the milk pudding should be made with farina that has already made the acquaintance of heat. It is well to make it of broken biscuit. If made of equal parts of broken biscuit and ground malt, the resultant product is an ideal food, and those readers who are not prepared to take this upon trust and require something more than my unsupported word for the fact, had best forthwith try it and let the "proof of the pudding be the eating." One proviso, however, it will in prudence be advisable to put in, viz: there are some palates to which malt is distasteful; and, of course, to these the pudding is

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a failure. And then let another fact be borne in mind by the food-reformer presiding over the nursery, and it is this: Malt sugar is not so distinctly and powerfully sweet as is cane sugar or beet sugar (but its flavor is finer); but, on the other hand, it does not nearly so easily undergo the acetic acid fermentation. Two great matters are involved in this: (1) acidity of the stomach; and (2) dental caries. Cane sugar decomposing into acid is most favorable to the development of dental caries. The delicate children, who are likely, sooner or later, to die of phthisis in some of its forms, are prone to bad teeth. The imperfect dentine soon is eaten away. And bad teeth interfere with mastication, and so are a fertile source of indigestion; while phthisis is a malady of imperfect nutrition.

Where only small meals are or can be taken at once little interludes are desirable. They should not consist of ordinary sweets made of common cane sugar, but rather of a draught of milk sweetened by malt-extract, a dry malt preparation, or the homely treacle. What unconscious genius introduced treacle into the nursery dietary? Male or female, no trace remains; and yet that individual has been the savior of many a little mite. Treacle has rather sank in public estimation of late years. It is cheap, and therefore of doubtful reputation. It is certainly rather a troublesome thing to handle; and, as our delightful friend, Oliver Wendell Holmes, says, it is not very easy to pour the last of the contents out of a jug—when the contents are treacle. But granting all this, treacle has its good qualities. As said before, it is a capital addition to a suet pudding. Treacle and butter in the centre of a plate of porridge have their attractions. Yes, and their memories, too, gentle reader! Then, in combination with butter, it makes toffee. A marvelous concentrated food is toffee, and an extra ration of toffee in cold weather is an excellent practice. As simple body-fuel to keep up the lamp of life, toffee is an excellent food. Rations of toffee are far more acceptable than spoons full of cod-liver oil. Sometime ago, when on the committee of the Westmoreland Society's School, I put this view forward and the experiment of toffee in cold weather was tried and found to work capitally, the health of the children being most satisfactory; while, it is almost needless to say, the children approved of it. When toffee is suggested for a fastidious child which loathes fat and dislikes cod-liver oil, a derisive smile breaks over the countenance of the mother. It is ignorance

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sneering at knowledge! Knowledge can afford it. But, prejudice and ignorance to the contrary, notwithstanding, toffee is an admirable combination and has done yeoman service to many a delicate child, as my hospital experience can testify.

When fish is eaten it should be with real melted butter, and not the mixture of butter and paste usually substituted by the cook for the genuine article, while oysters should be eaten as "Little Pigs in Blankets," where the oyster is enclosed in a thin slice of fat bacon.

Then as to fat itself. Next to cod-liver oil in digestibility comes the liquid fat of bacon. This can be readily taken by any child if bread-crumbs are mixed with it. Or the child will often take it as it is in the liquid state. The way in which potatoes are served in Devonshire to breakfast is an excellent measure for supplying fat to the organism in a very palatable form. The potatoes having been boiled are placed in the frying-pan along with a liberal supply of bacon fat. They are then chopped small while heating, and kept in the pan till the out-side is browned. Such a fatty dish is admirable, and when accompanied by a draught of milk forms a typical breakfast for a growing child of strumous tendencies. If it be thought desirable to add more tissue-forming material, it is easy to boil an egg lightly and empty it over the potatoes on the plate when served at table. Mashed potatoes are good with an egg over them. Pork and hominy as prepared in the United States, and extensively eaten, also constitute a desirable form of food.

If such foods constitute excellent breakfast dishes, some modifications are desirable for dinner. The rule of the nursery ought to be rigidly followed, viz: pudding first and meat after. The saliva then has time to act upon the starch, and thus a large quantity of the farinaceous material having been rendered soluble, passes out of the stomach, and so leaves it comparatively unembarrassed to act upon the albuminous elements supplied by the meat. This is physiological feeding. Our present eating customs distinctly traverse Nature's processes. The stomach is filled with meat, and then, when its acidity is pronounced, the farinaceous matter is introduced. The acidity of the stomach instantly arrests the conversion of starch by the saliva, and a load of unconverted starch is left to embarrass gastric digestion. By giving the farinaceous matter first the saliva has time to act upon the starch in the mouth (children should be

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taught to eat slowly and not to bolt their food), in the gullet and the stomach, before it becomes very distinctly acid. Then should follow some meat, as a slice from the joint. How desirable it would be if that slice might have, as a part of it, a piece of nice, sweet fat with it. But, unfortunately, this is too often impossible. Some good mashed potatoes, or carrots boiled and broken up with butter, or cauliflower, using just the white, should be added. As the child grows older its taste for vegetables will develop; and many vegetables can be made good and toothsome with butter, if sufficient care be given to their preparation.

Then should follow some stewed fruit and cream. And of this there could be a variety. Gooseberry-fool is good. Whipped cream is excellent. Cream moulds are suitable food. When adolescence is reached, then the biscuit or cracker, with butter and a nip of cheese, is relished. Cheese dishes are not, as a rule, much relished by the youthful palate; but adolescence brings with it other tastes. Hot sardines, or herrings' roe, or millet on buttered toast, as a tasty relish some might prefer to biscuit and cheese.

The greatest evidence of the value of fat in the food of the phthisical is furnished by the universal confidence placed in cod-liver oil as a curative agent in the treatment of consumption. Probably no dietetic remedy has made its way so fast into favor, and retained its hold upon the public mind, as well as upon that of the medical profession. Its introduction into regular and general use is due to the late Prof. J. Hughes Bennett, of Edinburgh, who, if not given to faith in drugs as a rule, certainly added a very important member to the therapeutic group. Yet cod-liver oil is not the best form of fat. Far from it! In what, then, lies its superiority? In the fact that it is the most easily assimilable of all the fats, and can be taken very frequently when no other fat can. When the sweet slice of fat is loathed the nauseous, fishy oil will be taken by a fastidious and dainty child; and not only that, but relished. And cod-liver oil has undoubtedly snatched many a phthisical sufferer from a yawning grave. Granting all that, cod-liver oil is merely the most digestible, and, perhaps, at the same time, the most nauseous form of fat—at least of those ordinarily used as food, probably the whale blubber of the Esquimau is more offensive.

Then come "fat emulsions." The digestion of fat is merely its high subdivision into particles so minute that they can enter the

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mouths of the lacteals in the intestinal villi. Cod-liver oil passes through the intestines, and is voided unchanged in many instances, and consequently does the taker no good. Nature supplies an oil emulsion in milk, and this largely explains the excellent effects of milk in cases of constitutional delicacy. Cream can also be largely used where it is desirable to introduce fat into the system. It goes capitally with stewed fruit. Where fat in the stomach offends it, as is the case with many dyspeptics—and a phthisical dyspeptic is truly and indeed "a handful" for physician, nurse and cook—then it must be given when the digestive act is well nigh complete, *i. e.*, from an hour and a half to two hours after a suitable meal. Cream can readily be taken with a little liquor, as Maraschino or Chartreuse; the liquor causing it to sit comfortably on the stomach. Another excellent plan which might be widely adopted with advantage, is to place a couple to tablespoonfuls of fresh cream in a tumbler and fill up with aerated water. This is a drink fit for one of the Muses or the Graces, if threatened with phthisis. Such fat emulsions are far more palatable than any of the prepared emulsions of cod-liver oil, no matter how made. But then the cod-liver oil emulsion has its advantages of ready assimilation. When the natural emulsion cannot be digested, then the cod-liver oil emulsion comes to the rescue. The emulsion of cod-liver oil with malt-extract has been found of immense advantage in numerous cases.

As to the different dietetic cures of phthisis, the most remarkable is "the koumiss cure." This is fermented mares' milk. But then it is only really of use on the arid steppes of Asia. Dr. Carrick, of St. Petersburg, had some Kirghis mares over in England a couple of years ago to illustrate the plan. But he told me it was utterly and absolutely useless in this country. The humid air of England did not produce that thirst essential to the drinking of a sufficiency of koumiss. On the steppes fifteen or sixteen large quart bottles could be comfortably taken in a day by a delicate person. Unless, then, the patient try the koumiss cure under proper circumstances, it is probably the wisest plan to let it alone.

Finally, my experience leads me to express the following opinion, deliberately with a full consciousness of the gravity of the subject—if persons born with a phthisical tendency were properly fed, with a full knowledge of what was good and desirable for them from the first day of their existence onwards and upwards; as soon as they were of years and intelligence to comprehend to have explained to them how they carry their life in their own hands; how, too, very often, their food inclinations are not in harmony with their tissue-wants, and must be struggled with; if this were done we should be spared a very considerable proportion of our cases of pulmonary phthisis—one of the saddest of maladies to which frail humanity is subject.—*Journal of Reconstructives.*

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., " } Editors.

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THE LATE SESSION OF THE NORTH CAROLINA MEDICAL SOCIETY.

The JOURNAL again congratulates the North Carolina Medical Society after the adjournment of another successful session. The increasing roll of the organization has brought into the membership a determination to make these meetings a gathering of doctors who have assembled with the single purpose of mutual improvement. And this laudable object has been persistently, patiently followed, with an earnestness that impresses not only the visitors whom we have had the pleasure to welcome in our midst, but also the older members, who have watched with pride and affection the growth of the Society year

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by year. It is no reflection upon the men who have made the meetings in past years to say that there is a change for the better, for this is observable to any one; nor is such a conclusion construable into any reflection upon the former days of the Society. We hold in respect and reverence the seniors of the Society, to whom we owe not only the origin and perpetuation of our Society, but its Board of Examiners and Board of Health, for it is the outcome of the former of the Boards that has done for the State organization what no amount of personal influence and endeavor could have secured. We take it as the corner-stone of the work of the Board of Examiners, that their sole purpose has been to prevent incompetent men from entering into and disgracing the good name of the regular profession in North Carolina. Having its beginning, as all such revolutions, or we had better say reforms, do, with the enthusiastic support of a few zealous men and the weak praise of the timorous, and the criticisms and condemnations of the big army of skeptics, it has filled the role of all such movements, in that it has gone steadily onward to its present high standard, alike the pride of the profession in this State, and the pattern of corresponding reforms in neighboring commonwealths. Finding the avenue to recognition among the most respectable men of our ranks guarded by these sentinels, the young men, upon assuming the responsibilities of the practice of medicine, have very generally approached the guard line, and sought to establish the right to enter into the hosts by giving evidence of the proficiency in, and knowledge of, the truths of their chosen calling, which constitute the passwords entitling them to enter in and enjoy the interchange of thoughts and observations that make the Society so valuable to us all. It is not without our knowledge that apparent hardships have attended the attempts of some of the candidates who have sought the license of the Board, and that in the denial of this license they have felt themselves much aggrieved. We feel, however, that when these young gentlemen have carefully considered the questions that have been put to them to test their learning and standing as physicians, they will see that no injustice has been done them—if, failing to come up to the standard of the Examiners, which others have reached, they have been denied the right to practice medicine and surgery for fee or reward. The blame in this matter rests not upon the unsuccessful graduate, who believes that, being in possession of a college diploma, he is already entitled to the license which the statutes of North Carolina has em-

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powered the Board of Examiners to give, but his failure and the responsibility for it, ought to be put, where it belongs, upon such colleges as graduate men who are not sufficiently posted as to give evidence of having mastered the principles of medicine, when tested by men chosen from the ranks of the busy and successful practitioners, among whom these applicants intend to settle, and with whom they propose to compete for the honors and emoluments arising out of the practice of medicine. There is no doubt that the laity, for whose protection this license-law was enacted, are in accord with the intents and purposes of the statute, and year by year, as the Society successively enjoys the increment to its membership from the licentiates of the Board, these gentlemen will join us, their seniors, in declaring that the interest and welfare of the people among whom they live and labor, as well as those of their profession, will be best served by the rigid examinations of applicants for license to begin professional life, and these new members will heartily aid in the efforts that have been made to protect the interests of the public and the profession. They will deem it a privilege to have been enrolled upon the books of the Examiners and the list of the Society as worthy of the confidence and esteem of their fellow-citizens.

The Board of Health has not received the support of the physicians at large which it deserves, nor has a just appreciation of the self-sacrificing labors of the members of the Board been shown by the State. They do not ask for increased appropriations to be expended upon themselves in the way of salaries and fees, but for the furtherance of the sanitary work they have instituted. This work has been prosecuted with wonderful economy, and much good has been done. We commend the idea to every reader of the JOURNAL in the State, that he may make it his business to see that his representative in the next General Assembly shall be properly posted upon the importance of this work, and seek to gain the support of all honest and intelligent men for the promotion of the further aid to the health organization from the State. We call the attention of such of the members as were deprived of the benefit of hearing the paper of Prof. Simmons, of Wake Forest College, on "Illuminating Oils," to the importance of some legislation prohibiting the sale of dangerous oils in the State. The importance is too great to be overlooked, and the statements of the paper are too clear to be misunderstood or neglected.

We congratulate our late President, Dr. Bahnson, on his successful

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administration and upon his Message, which contains many practical suggestions for the good of the Society.

The presence of distinguished and affable gentlemen from other States added very greatly to the interest and instructiveness of the session. We wish, however, to remind the members that the participation of these gentlemen in the discussions, that are the truly valuable part of the meetings, need not serve to repress them. There is no body of medical men in this country who can so well afford to tell of their labors as the members of the North Carolina Medical Society. If there was one feature more prominent than another in the remarks made by our visitors, it was the exceedingly plain and practical character of all they said—a simplicity begotten of knowledge and confidence in the truth of their statements, and a result that has had its effect upon our own physicians, but which their modesty too often forbids them to give to the meetings of the Society.

The JOURNAL is sensible of the compliment which it has received at the hands of the Society, and if earnest labor for all that makes our profession worthy of the admiration and trust of men, an aim that has always been ours, has merited the gratifying expressions of the Society, then we have earned a part of the reward for which we labor. It is not out of place, however, to say that we desire to know that our subscription list includes every reputable physician in the State, and that we can so command the esteem of these gentlemen as to procure for our pages the work of their pens.

Let us all prepare, then, for the year's work, and have its record faithfully set forth at Fayetteville in 1888.

DR. HENRY LEFFMANN, Editor of *The Polyclinic* (P. O. Box 791, Philadelphia), desires to obtain results of the new treatment of Pulmonary Consumption and Phthisis by gaseous enemata, *for publication in The Polyclinic.* The correct therapeutic value of this method can only be arrived at by the collection of statistics, and he therefore requests any one who has administered the gas to communicate the result to him, the formula used, and any special information that may be useful.

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REVIEWS AND BOOK NOTICES.

MEDICAL ELECTRICITY: A Practical Treatise on the Application of Electricity to Medicine and Surgery. By ROBERTS BARTHOLOW, AM., M.D., LL.D. Third Edition; Enlarged and Improved, with One Hundred and Ten Illustrations. Philadelphia: Lea Brothers & Co. 1887.

The teaching of medical electricity in the United States is far in advance of the practice. Its application is largely confined to consulting physicians in the larger cities. Now and then we find physicians in general practice who rely upon this therapeutic means and use it independently; but for the most part the last named class of practitioners is cut off from its employment for the reason that there are so few satisfactory electrical instruments for general purposes. As matters stand now, unless the physician has considerable knowledge of the physics of electricity, his apparatus gets out of order, and if he cannot mend his own machine, he must stop everything and send it off to have it repaired. This, of course only applies to portable electrical batteries, and these are in use by considerably the greater proportion of physicians. This, however, has nothing to do with the literature of medical electricity, for that now abounds with practical books which are made available to the whole profession, and among them none has taken a higher stand than that of the volume before us. The whole of Part I. is devoted to the physics of electricity, making plain the elements of the subject. The second part is devoted to electro-physiology; the third to electro-diagnosis; the fourth to electro-therapeutics; the fifth to electricity in surgery, and the sixth to thermo-electricity., We trust that the study of this book will bring into more popular use this therapeutic means, for, as Prof. Bartholow says: "If electricity has a real value as a remedy for disease, it is clear no physician is justified on small grounds in ignoring it, and on commercial grounds to neglect the employment of so useful an agent must be regarded as an act of exceeding unwisdom. An accumulation of clinical facts and experiences, and improvements in apparatus, have so simplified the practical adaptation of the science and art to the work of the physician, that the least qualified members of the profession may achieve a considerable measure of success in

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practical electrical therapeutics, though unacquainted with the niceties of electrical science." The following paragraph will show the conservatism of the author in regard to a formerly much lauded practice, viz: that of the magnet as a therapeutical agent: "No one who has looked without prejudice into the subject of the therapeutical properties of magnets can doubt it, but after many trials I must confess that I have not had results which justify me in the further use of magnetism. Owing to the nature of the subject and the subjective character of the phenomena, it is difficult to separate the effects of the magnet from the influence of the mental state. There is danger of the magnet applications degenerating into charlatanry, and hence circumspection is necessary."

The book is dedicated to the present Surgeon General of the United States Army, Brigadier General John Moore, M.D., and is beautifully printed and clearly illustrated by the well known firm of Lea Brothers.

THE PRACTITIONER'S HANDBOOK OF TREATMENT; OR, THE PRINCIPLES OF THERAPEUTICS. By J. MILNER FOTHERGILL, M.D., Physician to the City of London Hospital, etc. Third American from the Third English Edition. Philadelphia: Lea Brothers & Co. 1887.

Dr. Fothergill has grown in popularity in the United States during the comparatively short time he has been contributing to medical literature. He is particularly popular with American doctors, and this popularity is based upon the clear and attractive manner in which he presents every subject that he treats of; but none of his books have been received with more favor in the United States than "The Practitioner's Handbook of Treatment." It is not intended, as the author says, to be a manual of therapeutics, but he has endeavored to give a book which will "enable the student to study the works of Sidney Ringer and H. C. Wood, and to give him the broad lines upon which he must proceed in his therapeutic efforts: the basis upon which he can rear a superstructure that will embrace the minutiæ." That the book has reached a third edition in such a comparatively short time is also an evidence of its acceptability. The plan adopted by the author is first to give the physiology of each subject and then to review the pathology so far as they bear upon the treatment, and then he takes up the action of remedies,

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after which their practical application in prescriptions is furnished. The object of the author is not to introduce new remedies, or, in fact, to introduce new theories of the practice, but his greatest judgment has been in the practical and more rational application of well-known remedies. The volume closes with the consideration of the practical principles of public and private hygiene and dietetics, and finally with some directions about the behavior of the medical man at the bedside, part of which is a quotation from the well-known work of Austin Flint, with the permission of the latter, as the author states. Upon the whole, it is hardly necessary to say it to the large number of readers whose eyes this will catch that this is one of the very best books that the general practitioner could have on his study table, and we recommend a careful perusal of it by all those who have not yet availed themselves of it.

REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Vol. IV. Ich-Mil. Edited by ALBERT H. BUCK, M.D. William Wood & Co., 56 LaFayette Place, N. Y.

Ninety-eight authors contribute to this ponderous volume, and if we do not note among the names of the writers the majority of those whom we have learned to accept as authorities in medicine, we are inclined to the opinion that, as far as a goodly number of them is concerned, their contributions will some day place them in this list of worthies. The article on "Inflammation" is signed by W. T. Councilman, and while it only covers sixteen pages, it brings the subject up to the very latest day, and, as compared with the articles on the same subject, e. g., "Holmes' Surgery" (English edition), it shows what wonderful advancement and additions have been made to our knowledge of what we always consider a well-known subject; and we suppose if another edition of this volume should be called for in a few years, this is one of the articles which will have to be rewritten, if any, so great is the growth of pathology. The article on "Insanity," by Edward N. Brush, Theodore H. Kellogg and others, is nearly an hundred pages long, and is illustrated by portraits of different types of mental and other nervous diseases, including cretinism. Intestinal obstruction, intestinal diseases and the surgery of the intestines receive prominent treatment at the hands of two or three contributors, and so does the kidney, and is fully illustrated with a dozen or more chromo-

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lithographs of carcinoma and sarcoma. Labor also is treated at length, and is fully illustrated. The study of micro-organisms is elaborately illustrated, as such an interesting and comparatively new subject well deserves. It would be impossible to review such a work, owing to the multitude of subjects it covers, and, although we have kept this volume on hand for a long time, in order to do justice to its valuable contents, we can only say, in general terms, that it is, as the former volumes proved to be, a most valuable reference book for the profession, and is establishing an enduring fame for itself.

ATHOTHIS—A SATIRE ON MODERN MEDICINE. By THOS. C. MINOR. Cincinnati: Robert Clarke & Co. 1887.

The first chapter introduces Dr. Paulus Androcydes and his pet cat Anubis. Dr. Androcydes is a student of Egyptian hieroglyphics, and the scene introduces him at the task of deciphering from a learned papyrus, while his Angola cat was enjoying the heat of a glowing grate fire. On all hands are evidences that the learned doctor is fond of Egyptian learning and mysteries. On every side are emblems of Egyptian lore and symbols. In the corner of the room is a large sarcophagus containing a mummy. A low table is covered with retorts and test-tubes and chemicals in bottles and human bones and a grinning skull and specimens in alcohol, all indicating the laboratory work to which the learned man betook himself. Oddest of all these odd things is our Dr. Paulus Androcydes—physician, chemist, Egyptologist, delver in occult sciences and investigator of all eastern mysteries. Androcydes was wrapt in study upon the mysteries of old Chaldean Egypt found in the papyrus, and especially that part of it concerning the performance of miracles in medical practice. He is represented as an extreme skeptic, yet, in the perusal of this papyrus, he had received an impression very profound and falls into a cogitation upon transmigration. He finally lays down his papyrus and indulges in a low, disdainful, gurgling laugh. At this time his cat gave a blood-curdling scream of anger. The physician springs to his feet in astonishment because he finds his Angola cat with every hair on end, his tail uplifted and swollen to twice its natural size, his eyes like those of a raging demon, emitting phosphorescent flashes of light, intelligent gleams of indignant protest. He caresses his cat

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apologetically, which seems to pacify him. To make a long story short, the Doctor determines on one of the miracles of the Egyptian Magi, incinerates his cat in the convenient fire of his grate, recovers the ashes, and, according to the directions of his Egyptian teacher, places them on the line of the incision marked on the mummy as the place of abdominal evisceration, and ending the operation with the words, "I command thee to walk." Life comes into the mummy, and he rises before the bewildered Doctor with a motion almost imperceptible to human sight, "a man, the very embodiment of physical beauty and strength." The resurrected Athothis proves to be the author of the papyrus. His soul having been liberated from its temporary lodgement in the cat, he miraculously spiritualizes the body of Dr. Androcydes, and in this spiritualized condition the pair start out to make observations on what they see. So supernatural are these endowments that they visit the bedside of sick persons, and, all unseen by physicians and patients, they learn what is going on; and not only this, they have such acute spiritual discernment that they are enabled to view the whole human body as a transparent medium, thus witnessing all the functions as they actually are performed, and are enabled to criticise both the diagnosis and treatment of doctors whom they wish to inspect. With such a miraculous beginning, it is easy enough to follow the author through a series of adventures and acute criticisms, which, taken altogether, make a most curious and ludicrous satire upon the material things known to the profession. We will not anticipate the reader in his pleasure in reading this very remarkable production, but only desire to whet his appetite for what we trust will prove to him the book of the season—one that he can take along and read in his dry, dusty rounds, or take to the seaside with him and enjoy in a cool, swinging hammock.

Satires on the medical profession generally are not much relished by the profession, because most of them are too coarse, and particularly does the cheap wit of newspaper men and unsuccessful doctors, so frequently indulged in, go the rounds of newspaper and medical journal until one gets surfeited. But when the profession finds a good thing the driest of them are the last persons to find fault, and we may say they are the first to enjoy pungent wit, even at their own expense.

And now we have only introduced Dr. Minor's book to our readers, and expect to hear very much more about it than we can tell before the season is over.

The book is dedicated to Dr. John S. Billings, and is well executed by the well-known publishers Robert Clarke & Co. Small octavo. Cloth. Pp. 193.

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NOTES.

SAYRE'S ORTHOPEDIC SURGERY has recently been translated into French.

WE are pleased to note that the Medical and Chirurgical Faculty of Maryland elected at its last meeting for President Professor I. E. Atkinson, M.D.

FIRE HAND GRENADES (*Am. Jour. Pharm.*) are filled with mother liquor left after evaporating sea-salt. It is an impure solution of chloride of magnesium and calcium. (Sol. of Epsom salts would do as well.)

ARSENIC IN CHLOROFORM.—According to Dr. Scholvein (*Schweizerische Wochenschrift, Am. Jour. Pharm.* April) 10 kilograms of chloroform yielded 0.12 gram. of arseniate of ammonium and magnesium. Is this the experience of any American chemist?

ROBERT KOCH.—Parke, Davis & Co. have recently issued a very admirable portrait of the famous discoverer and savant, Dr. Koch, a copy of which reached our office some little time ago. Pharmacists who may desire to receive a copy of the same will be furnished with one free of expense by addressing the above firm at Detroit, Michigan.

THE *Maryland Medical Journal*, under the able editorial management of Dr. Thomas A. Ashley, has reached its eleventh year, with marked evidences of the ability of its leader. Dr. Ashley announces that he has secured the services of Dr. G. J. Preston to assist him in his labors, and we predict for the "*Maryland Medical*" increased success.

GELATINE-COATED PILLS.—Dr. C. C. Stockard, of Columbus, Miss., referring to a communication of Dr. Boyd concerning the insolubility of gelatine capsules, writes that he has frequently seen gelatine-coated quinine pills pass from the bowel undigested, even where there was no gastric inflammation. He has never known this to occur with freshly filled gelatine capsules, nor with gelatine-coated pills, except those of quinine. The latter he regards as so unreliable that he never prescribes them.—*Medical Record.*

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If pharmacy is being taught all along the line as well as it is being done at the Philadelphia College of Pharmacy and at Ann Arbor, it will not be long before we will see the places of youthful uneducated boys now in the business in so many otherwise good stores supplanted by educated men who will be a help to the doctor, rather than a standing menace.

Adulteration of Aniseed with Seed of Conium.—Mr. C. L. Lochman, of Bethlehem, Pa., calls attention to the fact (*American Druggist*, May) that on attempting to grow anise from Italian seed he got a crop of *Conium maculatum*. Danger from this adulteration may be quite remote in the practice of most physicians, but as the majority of our doctors are their own druggists such a lesson should teach them to enquire into the purity of all drugs they purchase.

Good Formula for Blaud's Pills.—Mr. William Duncan, in a paper in the *Chemist and Druggist*, gives the formula suggested by W. Martindale in his "Extra Pharmacopœia" as the more desirable. This formula for 24 pills would be: Ferrous sulphate, 60 grains; potassic carbonate, 36 grains; sugar (better replaced by sugar of milk), 24 grains; powd. tragacanth, 4 grains. These pills contain 19 per cent. of ferrous carbonate, and when examined two months later the pills had kept shape, were desirable in appearance, and the amount of ferrous carbonate was 18.3 per cent.—*Pharmaceutical Record.*

The Nettle Plants.—There are many nettles which have the property of setting up troublesome dermathites, and it may interest the doctor to know something about their anatomy and physiology. The *Torrey Bulletin* (March) condenses the remarks of Dr. G. Haberlandt from the *Journal of the Royal Microscopical Society* on this subject. The substance which gives the stinging properties to the fluid of the glands of the common stinging nettle is not, as has been generally supposed, formic acid, which could not produce the effect in such small quantities. Dr. H. states that the irritation must be produced by a fixed substance, since the dried contents of the gland will cause the ordinary effect of a nettle sting if introduced beneath the skin. He finds always the fluid a substance which exhibits all the properties of an albuminoid. The substance which produces the inflammation is probably a compound of the nature of an unformed ferment.

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PASSAGE OF THREE TEASPOONS THROUGH THE ALIMENTARY CANAL.—A woman, with intermittent paroxysms of mania of suicidal tendency, swallowed three teaspoons. Their passage through the intestines produced symptoms of peritonitis, which rapidly passed away, and a diarrhœa that ceased upon the passage of the spoons. These were exactly applied to one another, and surrounded with indurated fecal matter which presented the form of a cylinder. —*Rivista Internationale.*

THE UNIVERSITY OF NORTH CAROLINA CATALOGUE (1886–'87), just received, shows 204 matriculates, the same as the preceding year. Considering the enormous failures of crops and the fact that there is no preparatory department, the number is quite satisfactory. The Faculty includes 15 teachers. There are 18 lecture rooms, 6 laboratories and museums for daily scientific work; a large general museum; a select library of 25,000 volumes; a reading-room, with 80 papers and journals, and a fine supply of maps and illustrative apparatus. The law school is flourishing.

AN OPINION ON THE VALUE OF THE SPHYGMOGRAPH.—The New York *Medical Record*, in reviewing the admirable Croomian lectures of Dr. Broadbent, recently delivered, quotes the lecturer as saying that he has not found "any practical vitality in the sphygmograph in prognosis and diagnosis." This recalls an experience of the writer with his bright new sphygmograph just from the factory. He was particularly charmed with the highly scientific appearance of his instrument, and, after demonstrating its working power, hied him off to a very intelligent lady patient to show what advancement the grand science had made in detecting disease. The patient was suffering with a functional intermission of the heart as an accompaniment of a gouty seizure, and was depressed. The handsome little instrument was applied nicely to the delicate white wrist, the spring touched the minute clock-work and whizzed away, but the record was a failure. Again and again was it applied, until, in the course of an hour, the correct pressure was adjusted, and the sphygmogram interpreted accurately enough what the finger had shown the day before—an intermission. Highly pleased with his success, and, of course, expecting a compliment upon his improved diagnostic armamentarium, he was rather chilled by the remark: "Very scientific and very pretty, but ordinary doctors would have made out their case, collected their thoughts and been gone in half the time."

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BOOKS AND PAMPHLETS RECEIVED.

Persistent Pain after Abdominal Section. By James B. Hunter, M.D.

The New Treatment of Cataract Patients. By Julian J. Chisolm, M.D.

Practical Examples in Prescription-Writing. By Charles H. May, M.D.

Abuse of Alcoholics by the Healthy. By Stanford E. Chaillé, A.M., M.D.

Transactions of the Medical Society of Virginia. Seventeenth Session. 1886.

Baked Beans: A Serio-Humorous Medical Paper. By Ephraim Cutter, A.M., M.D.

Contributions to the Diagnosis of Yellow Fever. By Augustin M. Fernandez, M.D.

Transplantation of a Rabbit's Eye into the Human Orbit. By Charles H. May, M.D.

The Antiseptic Treatment of Summer Diarrhœa. By L. Emmett Holt, A.M., M.D. Reprint from the *New York Medical Journal.*

The Doctorate Address. Delivered at the Semi Centennial Anniversary of the University of Louisville. By David W. Yandell, M.D.

Practical Observations on the Gonococcus and Boux's Method of Confirming Its Identity. By Charles W. Allen, M.D. Reprint from the *Journal of Cutaneous and General Urinary Diseases.*.

The Past, Present and Future Treatment of Homœopathy, Electicism and Kindred Delusions which may hereafter arise in the Medical Profession, as viewed from the Standpoints of the History of Medicine and of Personal Experience. By Henry I. Bowditch, A.M., M.D.

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Annual Address, delivered before the American Academy of Medicine October 12, 1886. By R. S. Sutton, A.M., M.D.

Ninth Annual Report of the Presbyterian Eye, Ear and Throat Charity Hospital, No 1007 East Baltimore Street, Baltimore. 1886.

The Scientific Rationale of Electrotherapy. A Revised Paper on the Therapeutic Applications of Electricity. By C. H. Hughes, M.D.

Annual Report of the Board of Managers of the New York State Reformatory at Elmira, for the year ending September 30, 1886.

Some Considerations Concerning Cancer of the Uterus, Especially Its Palliative Treatment in Its Later Stages. By Andrew F. Currier, M.D.

Proceedings of the National Conference of State Boards of Health at the Third Annual Meeting held at Toronto, Canada, October 4, 1886.

Proceedings and Addresses at a Sanitary Convention held at Coldwater, Michigan, September 9 and 10, 1886. Michigan State Board of Health.

Annual Address, delivered before the American Academy of Medicine, at Pittsburg, Pa., October 12, 1886. By R. S. Sutton, A.M., M.D., LL.D.

The Curability of Epilepsy and Epileptoid Affections by Galvanism and the Phosphated and Arseniated Bromides. By C. H. Hughes, M.D., St. Louis, Mo.

A Novel System of Operating for the Correction of the Deflected Septum by Means of an Electric Motor, Nasal Drills and an Original Spray-Producing Device, with Illustrative Cases. By William Chapman Jarvis, M.D.

Official List of Medical Officers of the United States Marine Hospital Service, including Acting Assistant Surgeons and Hospital Stewards: also, Lists of United States Marine Hospitals and Quarantine Stations. January 1, 1887.

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READING NOTICES.

ORIGINAL MEMOIR—DR. MALACRIDA, IN GAZETTE DEGLI OSPITALE, MILAN, 1886—UTILITY OF CARNICK'S SOLUBLE FOOD.—In July last there came under my care a lady suffering from parenchymatous rheumatic nephritis. The attack was so acute as to lead to the suspicion of Variola, shivering, frequent and terrible lumbar pains, vomiting, but on the third day occurred an œdema, which became general, the urine being examined, removed every doubt as to the diagnosis. In quantity half a litre in twenty-four hours; reaction acid; specific gravity 10.35; reddish brown color on account of the presence of blood. Tested for albumen it became a solid brown mass, almost black. The microscope revealed a great quantity of renal epithelium, numerous blood corpuscles, both red and white, etc. The patient was threatened with pulmonary œdema, an obstinate vomiting of mucous and acid rendered impossible the administration of any remedy to overcome the constipation afflicting the patient from the first, and which prevented any possibility, by the intestinal tract, of compensating for the insufficiency of alimentation. Perspiration was induced, cups were applied to the lumbar region, attempts were made to administer milk; first pure, then deprived of butter by beating, and seasoned with salt or with Carlsbad water, but all were abandoned on account of distressing gastric symptoms being aggravated in the most extraordinary manner. Not knowing where to turn for a dietetic and curative method, it occurred to me that when sick infants were afflicted with gastro-enteritis of the gravest nature, I had always used the Carnick Soluble Food with the greatest success. I therefore resolved to try it in this instance. I had a teaspoonful boiled a few moments in a glass of water and gave it hot to my patient, who supported it exceedingly well. I repeated the portion after a few hours; in short, nourished with this food alone and treated with a few subcutaneous injections of hydrochlorate of pilo-carpine, the gastric intolerance diminished, the tongue became clean, the breath less offensive, the quantity of albumen contained in the urine being less, mophologic elements disappeared, phosphites and chlorides reappeared, and the patient made good recovery, not abandoning, however, for two weeks more, Soluble Food (*la sua farina alimentare*). I also attempted the administration of this food in two cases of ulcer of the stomach, but with less happy results, though the tolerance was better than for milk, especially with the addition of a strong infusion of coca or a few centigrammes of hydrochlorate of cocaine. Another female patient, afflicted with carcinoma of the pylorus, who tolerated neither milk nor broth, nor extract of meat, nor peptones, supported very well the Soluble Food cooked in water, to which was added a little diluted spirit of cider. In conclusion, I believe that of all the special foods which are more or less highly praised and introduced to our notice, this Carnick Food merits the preference.

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NORTH CAROLINA
MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

Number 6. Wilmington, June, 1887. Vol. 19.

ORIGINAL COMMUNICATIONS.

ANNUAL MESSAGE.

By Henry T. Bahnson, M.D., President.

Read before the Medical Society of the State of North Carolina, at Charlotte, April 14, 1887.

Gentlemen of the Medical Society of North Carolina:

To-day we celebrate the thirty-eighth anniversary of our organization, as we assemble to hold our Thirty-fourth Annual Meeting. Temporarily interrupted by the disturbing influences of war, our membership has steadily increased, until the meagre list of a dozen names, now contains a full five hundred. The Medical Society of North Carolina has outlived the full measure of years of a generation. In that time it has achieved an honorable distinction among similar organizations. Its influence for good has been experienced by every community throughout the extended area of our State, and its fame has reached far beyond our own borders. It has maintained the good-will and confidence of its friends, and effectually silenced the calumnies of its enemies. It has labored in behalf of

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the poor and the suffering, until every jail and almshouse has been benefited by the ameliorating influence and supervision of its Board of Health, while its license law has banished quackery from the State. Have we not, then, just cause to congratulate ourselves upon this happy occasion?

We meet to exchange greetings, and, throwing off for a day or two, our toilsome harness, give ourselves over to a *quasi* recreation, which imbues us with new courage and fresh aspirations to overcome the difficulties of our life's work.

This is a reunion, when friend grasps the hand of friend, who, separated by hundreds of miles, but for this annual convocation would scarcely meet this side the grave.

I said advisedly a *qaasi* recreation. Delightful as are the social features of these occasions, our annual meetings are more than friendly reunions. We come together to exchange ideas, to learn new and emphasize old lessons in the duties of our profession and the art of healing. Each of us is a teacher—all of us are willing students. Individual experiences are related, items of professional information offered, essays and clinical reports presented, and by discussion the chaff is separated from the wheat, which we carefully gather to carry with us to our distant homes. We leave these meetings strengthened and refreshed—our minds stored with new and useful knowledge, our hearts stimulated to renewed exertion, our hopes quickened, our faith confirmed, our ambition excited to achieve greater successes in our noble calling.

Did time allow, it would be pleasant and profitable as well, to refer to the past of our Society, and, recounting its trials overcome, and its obstacles surmounted, we could learn much of counsel and encouragement from its history. Its roll contains the names of a host of earnest workers, many of whom, alas, have gone to their eternal rest, and many, alas, who, by their presence here to-day, show their unabated interest in the creation of their labors. For it may truly be said of our Society that it was the work of no one man; to single out those who more than others were instrumental in its organization and maintenance, would be a hopeless task. Each in his degree, and according to his ability zealously aided the same. The North Carolina Medical Society, as it exists to-day, is the culmination of unselfish individual effort, inspired and united by the affection borne for it by its members. If we sincerely desire

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to promote the cause, in the interests of which we are here assembled, we must emulate the example of our predecessors, in laying aside every selfish consideration, and with singleness of purpose combine earnest individual effort in our work as a Society. Let each one ask himself, what have I done, and what can I do, to deserve the honor of belonging to such a nobly built and grandly successful organization?

Look back upon the year that has passed. Has your conduct been always in accord with the spirit of the Code of Ethics, that grand bulwark and safeguard of professional relationship, which you recognize as part of the Constitution of this Society? Have you invariably, in thought, and word, and deed, conformed to the Golden Rule, of which the Code of Ethics is only an amplification, and regarded a brother physician's interests as you would have him regard yours under similar circumstances?

Again, what have you done to promote the interests of the Society since its last meeting? What lessons have you learned to impart to your fellow-members? What clinical observations have you elaborated to contribute to the general fund of knowledge? What time and thought and labor have you devoted to the cause of medicine in general, and your Society in particular? Has your Society no claims upon you? Does any one of you think that his obligations to it are cancelled by the payment of his admission fee and annual dues; that this is a fair return for the benefits it confers upon him? If so, I pity him; but I pity our Society more. Of such material it could never have been formed; with such material it cannot long be maintained.

But, fellow-citizens, I am constrained to hope for better things from all who are here to-day. Your presence is a proof of your interest in the great and noble cause of which our Society is the exponent—the increase and dissemination of medical knowledge and for the alleviation of human suffering. Inspired by such an ambition, I bid you welcome, and pray that the blessings of an overruling Providence may attend our deliberations.

Our Society is responsible for the organization and maintenance of two important State institutions, viz: the Board of Medical Examiners and the Board of Health. Allow me briefly to refer to their work for the past year.

The Board of Medical Examiners remained in session for one

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week at New Bern, and during that time examined 62 applicants for license. Of these 46 were granted license and 16 were either rejected or allowed to withdraw their applications. For the faithful labors of the gentlemen composing this Board the people of North Carolina owe unstinted gratitude. We may well be proud of the grand work accomplished by this Board, and I am sure you will all agree with me in commending it for its faithful performance of a most necessary but unpleasent and thankless duty.

I wish it were possible to speak in a similar strain of congratulation of the operations of our Board of Health. In part I can truthfully do so, and take pleasure in tendering our thanks and heartfelt approval to the staff of this most important institution for their meritorious performance of the work which we have entrusted to them. A perusal of their biennial report shows that they only need our coöperation to insure a successful prosecution of their undertaking. They have accomplished a great deal, and they report a decided improvement in the workings of the county boards of health. But when we notice that hardly half of the counties in the State have a board or superintendent of health, and that not nearly all of these submit a report, we must acknowledge that the State Board of Health falls short of what it should and could be.

The condition of many of our jails and poor houses is a disgrace to the communities in which they are situated, and justly merits the strictures contained in the report. Some months ago I visited a jail in one ef our most enterprising and prosperous cities. Grand hotels, spacious mercantile houses, commodious banks and costly residences indicated a wealthy community, while towering above the roofs of the loftiest buildings the steeples of numerous churches pointed towards heaven. To the casual observer there appeared a singularly happy blending of wealth and religion. In the shadow of the temple of justice was the jail building. Inside of an encircling brick wall pierced with two small windows, was an iron cage 12 feet square and 12 feet high. The cage was divided by an iron floor into two stories. Each of these was subdivided into two cells and a passage way. After my eyes had become accustomed to the dim light, I counted twenty-four human beings huddled in these confined quarters. They were clothed in rags, and a few tattered pieces of blankets and sacks constituted their bedding. Many of these poor wretches had lain there for many months, awaiting trial

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for petty offences. The place was reeking with filth, and the stench was beyond description. Every sanitary necessity was absent. The cage seemed literally full, but I was informed that twice as many were frequently confined in it; and, on account of its security, the jail was patronized by adjoining counties, in one of which is located the largest city of our State. Now, the county in which this jail is located has its board of commissioners, who appoints the jailor and are responsible for the health and safe-keeping of the prisoners. Grand juries, by order of the court, inspect and report upon the condition of the public buildings and their inmates—all the machinery of the law is in active operation—and yet, within the limits of an incorporated city, in sight of the hotels, the stores, the banks, the private residences, the houses of God, this foul abomination, this crime against God and man, existed and flourished.

I wish I could believe that the abuse I have feebly described stands alone in its horrible enormity. God grant our beloved State has no more such foul blots upon her escutcheon; and yet I fear this is not an isolated example. What if the law failed to correct this abuse; what if the pursuit of wealth engrossed the attention of the average citizen; what if professors and ministers of religion neglected the injunction of their Master to visit the least of these His brethren in prison, can we, the self-constituted guardians of the health and lives of our fellow-men, excuse ourselves? If we are what we profess to be, laborers in the cause of humanity—if we are actuated by the philanthropic motives which should characterize the medical profession, how can we close our eyes or restrain our tongues at these outrageous enormities? As citizens we have a right, as physicians it is our duty, to correct these evils and prevent their occurrence. We have the power. Let us hold up the hands of our Board of Health; let us aid and strengthen and encourage our county superintendents, and let us show to the world that our philanthropic professions are not "as sounding brass and tinkling cymbals."

As I said before, we, as a Society, are responsible for the existence and maintenance of the Board of Health. Only by our coöperation, as individuals, can its ends and aims be accomplished, and its claims for efficieney as a State institution be justified.

The details of the terrible calamity which nearly destroyed the principal city of an adjoining State, must still be fresh in your

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memories. Being called upon by several prominent members of our Society to issue an appeal for the relief of our suffering confreres in Charleston, I first addressed a personal letter to Dr. F. Peyre Porcher, enclosing a contribution. His grateful reply, written in behalf of his more destitute associates, and detailing the urgent necessities of their unfortunate condition, determined me to issue the circular letter, with whose purport you all are acquainted. The result of this appeal was the collecting and forwarding to Dr. Porcher for distribution the net sum of $215.35. As I had originated the correspondence, our Treasurer, Dr. R. L. Payne, Jr., courteously turned over to me such sums as were sent to him, and I herewith present to the Society my report of receipts and disbursements:

RECEIPTS.

1886—September	23	To cash (H. T. Bahnson)		$ 25 00
" "	27	" H. E. Fries, Salem, N. C.		5 00
" "	28	" Mrs. L. M. Fries, Salem, N. C.		5 00
" October	1	Dr. Eugene Grissom, Raleigh		10 00
" "		" P. L. Murphy, Morganton		10 00
" "		" E. M. Summerell "		5 00
" "		" W. P. Ivey, "		2 50
" "		" R. P Bessent, "		1 00
" "		Capt. Jos. Walker, "		5 00
" "		Mr. F. M. Scrogga, "		2 50
" "	2	Dr. Thomas E. Anderson, Statesville		5 00
" "	4	" J. T. Shubrick, Winton		2 00
" "		" S. S. Daniel, "		1 00
" "	5	" R. H. Lewis, Raleigh		5 00
" "	6	" L. J. Picot, Littleton		2 00
" "		Mrs. Dr. Person, Franklinton		1 00
" "		Dr. Hunter McGuire, Richmond, Va		25 00
" "	8	" C. M. Poole, Salisbury		5 00
" "	9	" James L. Nicholson, Richlands		2 00
" "	14	" A. J. Battle, Rocky Mount		10 00
" "		Collections at Pleasant Grove, Wake county, through Dr. T. B. Robertson		8 00
" "		Collections by Mrs. Dr. Person and Dr. L. J. Picot,		7 00
" "	16	Mrs. S. C. Robeson, widow of Dr. R. R. Robeson, Kyle's Landing		5 00
" "	18	Dr. Thomas F. Wood, Wilmington		10 00
" "		" W. E. Powell, Castoria		3 00
" "		" J. F. Harrell, Whiteville		5 00
"		Drs. R. L. Payne, Sr., and Jr., Lexington		3 00
" "		Collected by Dr. D. M. Prince, Laurinburg		30 35
" November	3	Dr. G. T Sikes, Grissom		2 00
" "	4	" J. B. Gaither, Mill Bridge		3 00
" "		" E. Rose Dorsett, Salisbury		10 00
" "		" W. J. H. Bellamy, Wilmington		2 00
1887—January	4	" J. M. Boy Ette, Little River Academy		5 00
Total				$222 85

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DISBURSEMENTS.

1886—September	23—	By cash to Dr. Porcher			$	25 00
" "	28—	By postage stamps				5 00
" "		Printing circular				2 00
" October	2—	Cash to Dr. Porcher				44 00
" "	7—	"	"			36 00
" "	9—	"	"			7 00
" "	14—	"	"			25 00
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" November	3—	"	"			2 00
" "	15—	"	"			3 00
" "		"	"			12 00
1887—January	5—	"	"			5 00
Total					$	222 35

The contributions of Drs. E. Rose Dorsett and W. J. H. Bellamy did not pass through my hands. Dr. J. M. Boy Ette desired his donation to be devoted to the Charleston Medical College. Dr. Porcher's letter of acknowledgment and the accompanying receipt make further comment unnecessary:

"CHARLESTON, S. C., November 29, 1886.

"*Dr. H. T. Bahnson, President of the North Carolina Medical Society:*

"DEAR DOCTOR:—Having received through and from you and others several contributions made by the members of your State Medical Society and others, as follows: Through Dr. Bahnson, President, $198.35; through Dr. Rose Dorsett, Salisbury, $10.00; Dr. W. J. H. Bellamy, through Dr. R. L. Payne, $2.00—($210.35)—I desire to make a special acknowledgment for the same, and thank yourself and the several contributors for their generous assistance. We know the difficulty which the medical profession, as a class, meets with in their efforts to support their own families, and we can therefore more readily and fully appreciate the self-denial exercised by many in your State in their generous and sympathetic efforts to relieve those of their brethren who have met with disaster here.

"I have made acknowledgments in the *News and Courier* of this city of all these contributions, and through whom they were received, in order that our citizens should be made acquainted, as far as possible, with the widespread sympathy which the misfortune from which they have suffered has excited among the physicians of North Carolina.

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"We have to thank you and others (men and women) for the zeal and interest you have exhibited, and for the trouble you have taken in our behalf.

"I remain, with great respect and esteem, yours, sincerely,

"F. PEYRE PORCHER, M.D."

"CHARLESTON, January 11, 1887.

"I received from Prof. F. P. Porcher five dollars, contribution from J. Middleton Boy Ette, M.D., for repair of Medical College of the State of South Carolina, forwarded by Dr. H. T. Bahnson, of Salem, N. C. J. FORD PRIOLEAU, M.D., Dean."

Following the example of those who have previously held the office to which your kind partiality has elevated me, I have this opportunity to present some suggestions for your consideration.

The increase in our membership, as I before remarked, has been steady, and our list now embraces more than one-third of the reputable practitioners of medicine in the State. The increased attendance at our meetings is likewise very gratifying. But we desire to have all the physicians in North Carolina identified with our Society. That the interests of the profession as well as of the Society would be promoted by such a consummation, needs no argument. Every medical man, whether in or out of the Society, must be convinced of the advantage of merging individual interests and influence into one common cause. Repeated efforts have been made to attain this end. Amongst other measures proposed is the one suggested by my immediate predecessor in the presidential chair, and which formed an important part of our original plan of organization, viz: the institution of county medical societies auxiliary to, and under the general supervision of, the parent Society. Now, that our numbers have so largely increased, and we have members in practically every county in the State, it is reasonable to expect more in this direction than was accomplished in the past. While I sincerely hope this measure may be most zealously prosecuted, and meet with abundant success, I confess that I am not content with the associate membership conferred by the county Society. What we want is a closer connection—a *bona fide* working membership. I believe that we make admission into our Society too difficult. As I understand the Constitution no physician can join unless he is present at the meeting, his application is approved by the Committee on Credentials,

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he signs the Constitution and pays the initiation fee of five dollars. Surely, with the restrictions afforded by our Board of Medical Examiners and our Committee on Credentials, we need not insist upon personal attendance. Many desirable associates, who would make excellent members, are, for one reason or another, prevented from coming to our meetings. If their application, endorsed by two members in good standing, could be received and acted upon by the Society, and a proxy be allowed to sign their names to the Constitution, I am convinced that all necessary safeguards would have been thrown about admissions, and we could secure the moral support of a largely increased membership.

As a means for increasing our membership, we have never utilized the opportunities afforded by these annual meetings. If we will, we can make them a grand school of medical instruction, which would attract all who have a desire to increase their professional knowledge and skill.

The best part of medicine is not yet written. Nothing is so valuable as carefully digested clinical reports. The humblest country physician meets with experiences, and is confronted by emergencies, hardly hinted at in the text books. In this practical age theories which have claimed the unhesitating faith of generations, are controverted almost daily by the logic of facts. Let it be remembered that it was a country physician who led the van in the triumphal march of abdominal surgery. The country physician has one great advantage over his busy city confrere. In his lonely rides he has time to reflect upon his experiences. Some of the most interesting and instructive papers presented to this Society have been the result of the pains-taking studies of these very men.

It is not always, or even generally, the grave emergency or the unique experience, which is worth reporting. The simplest case of every day occurrence may convey a lesson which is of inestimable value. There is not one among you here to-day that does not carry in his remembrance clinical observations which would afford valuable instruction and assistance to his medical brethren. If every member present, stimulated by a sense of duty, would add his mite to the general fund the reproach that these meetings are lacking in interest would be effectually refuted.

The members of our Society are not wanting in education or skill in their profession. Contributions from their pens are sought after

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by the leading medical publications of the country, and yet very few papers are presented at the meetings, the range of subjects for discussion is limited, and only a small number take part in these discussions. This may be due largely to a lack of interest, or perhaps to a diffidence on the part of members, but I am of the opinion that this is not the main cause. The physician who feels that he has valuable information to impart, more especially if this information is the result of much labor and thought, naturally desires that the whole medical profession may have the benefit of such information, and hesitates to present it to so limited a number as are reached by the publications of the Society. He knows he is entitled to a larger audience, and who can blame him if he seeks it? I venture to say that, if all the articles written by members of this Society which have appeared in the various medical journals in the past twelve months were collected into our "Transactions" of this meeting, we would have a publication of which any medical society might justly be proud. Probably 550 copies of our "Transactions" are printed, and their circulation is confined practically to the membership of our Society. The necessity for a wider publicity, as an incentive to the preparation of papers for their annual meeting, was early recognized by our sister Society in Virginia, and, with all deference to the talent and zeal of her members, I am confident that the publication of their "Transactions" in connection with a journal whose circulation and exchange list brought them to the notice of every reputable medical journal and prominent medical men in this country and not a few beyond the limits of the United States, was the lever by which they have elevated their Society into such meritorious prominence. In addition to the benefits accruing to the Virginia Medical Society, this action has helped to advance the *Virginia Medical Monthly* to the front of medical literature.

In adopting the NORTH CAROLINA MEDICAL JOURNAL, under its present management, as the organ of our Society, we could similarly benefit ourselves, and at the same time extend a helping hand to our worthy brother, whose absence from our meeting, both last year and this year, is due to the fact that he lies, stricken and helpless, upon a bed of sickness. For many years he has been our wise and prudent counsellor, our faithful and self-sacrificing, our voluntary servant—a standard-bearer of the medical profession in North Carolina. Actuated by purely patriotic and wholly unselfish motives,

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undeterred by apparently insurmountable obstacles, undismayed by the lack of encouragement and even the positive opposition of his friends, he has accomplished his self-appointed task, and we reap the benefit of his labors. His days for active professional work are cut short in his prime, but his heart is with us to-day, his brain and his pen still labor in our cause. He asks no recompense at our hands. His has been a labor of love, with no thought of reward but the approval of a good conscience and the accomplishment of a noble ambition. If we can induce our brother to take charge of our "Transactions" we would have the benefit of his acknowledged ability in censorship, the delays incident to our present plan of publication would be obviated, and we would enjoy all the advantages accruing from a largely increased circulation. Stimulated by the knowledge that our "Transactions" are not confined to our own narrow limits, but are subjected to the criticisms, friendly or otherwise, of the great medical world, we would naturally redouble our efforts, and, if this plan is adopted, I predict an era of intellectual activity in our Society such as we have long hoped for, but have hitherto failed to attain.

A speedy publication of the "Transactions" greatly enhances their value. It should be a rule of the Society that articles which are not received within ten days after the close of the meeting shall not appear in the "Transactions." This is no hardship. Papers can be handed in during the session, and the best time to revise oral communications and impromptu remarks is while the subjects are fresh in the memory.

It seems a pity, inasmuch as we meet only once in twelve months, that our sessions should be so short. I strongly urge for your consideration the advisability of appointing an earlier day of the week for our meeting.

Our time, short as it is, could be more profitably utilized if a detailed programme were arranged in advance of the meeting. With little trouble the title and scope of papers to be presented could be obtained, and these, with the subjects for discussion and other items of information incorporated in a programme, a copy of which should be sent to each member with his notice of the meeting. I suggest that this matter be entrusted to the President and Secretary of the Society, in conjunction with the local committee of arrangements.

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One of the most attractive features in the annual meetings of the Dental Association consists of the clinical lectures. One or more hours of each day are devoted to this purpose, and I am assured by personal observation, as well as by the testimony of friends in that profession, that numbers are induced to attend the meetings by the instruction thus afforded. I earnestly commend this idea to your consideration, and suggest that members be encouraged to present to this Society, at designated hours, such cases of interest as can be easily obtained in any community. The profit derived from these demonstrations would doubtless be greatly enhanced by securing the attendance at each of our meetings of one or more of the great clinical teachers of the country.

As your President, and on your behalf, I have taken the liberty to invite to this meeting several gentlemen from distant States, who have made themselves eminent in the profession. For such as have responded to this invitation, and by whose presence to day we feel ourselves honored, I bespeak for the Society a most hearty welcome.

In this connection I desire to emphasize the importance of maintaining, and, if possible, increasing our fraternal relations with the medical societies of adjoining, and even distant, States in the Union. The friendly association with their delegates, their investigations of our plans and methods, and their participation in our discussions, cannot fail to stimulate us to renewed activity in our own domain, and enlarge our horizon, to the manifest enhancement of the interest and profit of these meetings. An appointment as a delegate to another medical society should be regarded, not as an empty compliment, but as an honor; and, if accepted, the duty of attending the meeting of such society should be considered obligatory.

As a man grows older his love for old customs and ways grows stronger. This must be my excuse for directing your attention to an innovation in the method of publishing and calling the list of members. Formerly the names were called at our meetings and published in the "Transactions" in the order in which the signatures were appended to the Constitution. The alphabetical list may perhaps be more convenient, although I am not ready to admit it. In any event, I hope the Society will instruct the Secretary to call the roll in the old way, and have the list of members published in the "Transactions" in the order in which they signed the Constitu-

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tion, with the year of admission opposite the name, as a slight recognition of the claims of the veterans in our ranks.

By an oversight, which is to me inexplicable, we have in recent years failed to show the respect we certainly feel for the memory of deceased members. The last report of an obituary committee mentioned in our "Transactions" was made in 1881. Since that time no notice has been published of the death of members, many of whom, during their life, occupied prominent positions in the State and were active and valued members of the Society. The memory of such men as Marcellus Whitehead, C. Tate Murphy, Hugh Kelly, J. K. Hall and H. W. Faison will always be dear to this Society. In them were blended all the qualities that make the true physician and Christian gentleman. It is not my purpose to pronounce their eulogy, which deserves to be placed in abler hands. I ask the Society to authorize me to appoint an obituary committee, who shall at this meeting attempt to correct an unintentional omission of duty on our part, by rendering a fitting tribute to the memory of our departed brothers.

Fellow-members, you must be aware that the suggestions I have offered for your consideration are dictated by the love I bear for our Society, and in the hope that their adoption may aid in promoting its interests.

You have shown your appreciation of my devotion to our beloved Society by conferring upon me the highest honor it is in your power to bestow. I must crave a further favor at your hands: Bear with me in my inexperience, and lend me your assistance in performing the important duties which devolve upon your presiding officer.

ALIMENTATION IN CONTINUED FEVERS—THE SOCIETY PRIZE ESSAY.

By Dr. Francis Duffy, New Bern, N. C.

[Read before the Medical Society of the State of North Carolina, at Charlotte, April 14, 1887.]

The celebrated Dublin physician, Dr. Graves, more than half a century ago, was content that his epitaph should be: "He fed a fever." Before Dr. Graves' day starvation was classic management of fevers; food was considered as only fuel to the flames. Fever patients

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often had to stand (if stand they could) the ravages of disease plus depletion and deprivation of sustaining aliment. But clinical observers began to grow skeptical of the utility of this management, and when, at last, fever patients began to be fed, it was progress in the right direction, although the principles governing alimentation were but little understood, and the crude process of swallowing food not chosen or indicated, either by the instinctive guidance of desire or the theoretical knowledge of chemistry and physiology, was often as harmful as starvation itself. The day came, and perhaps in many places and with many men is yet, when substances of little or no food value were relied on to sustain life, when other substances, rich in food value were put in the stomach in greater quantities than could be harmlessly disposed of, and when substances in themselves harmful from indigestibility or other unsuitableness were allowed, or rather forced, upon the patient. Between these two extremes of starvation and suffering we may, as in most other cases, go safely in the middle way. That the natural, healthy human body can undergo periods of absolute starvation (water being allowed) varying from twenty to forty days, seems to be established beyond a doubt, and a very little nutriment, the body being in a state of rest, will sustain life through a much longer period. The clinical history of Typhoid Fever rarely embraces a period longer than a healthy man can starve. With these facts, let us further consider that there are other points somewhat in favor of abstinence in fever—let us consider what nutrition is; what the conditions are which are necessary to attain it; to what extent these conditions exist in continued fevers; and whether attempts at nutrition which result (as is often the case) in only the presence of undigested or unabsorbed alimentary substances in the alimentary canal is not absolutely harmful. The process of nutrition requires, (1) Digestion—the conversion of foods into alimentary principles. (2) Absorption and distribution of these principles through the blood and lymph vessels. (3) Assimilation—the arrest or reception of these principles by the tissues and their conversion into the living elements of the body. Only the healthy body, with normal temperature, normal circulation, normal condition of the nervous system, with different kinds of nerves regulating or controlling all of the secretions and vital processes of the body, can perform these several functions to a degree requisite to the disposal of the daily allowance of food necessary for the maintenance of the body in health. The idea that increased

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destructive metamorphosis incident to the fever process calls for increased nutrition would, from a superficial view, seem to be theoretically correct, but practically we cannot accomplish it. The rapid molecular death of the tissues, under the influence of high temperature and the ensemble of chemical and vital phenomena which constitute the finer process, is incompatible with tissue-building to an almost prohibitory degree, and the digestive laboratory is crippled and incapacitated for performing its function. We cannot rebuild the new edifice while the old one is yet in flames. If, when gastric digestion is suspended albuminoid substances are artificially converted into peptones, absorption is not assured, and if accomplished, on the principle that any liquid would be absorbed by a thirsty soil, the third and crowning act of nutrition, viz: assimilation, can only be performed in a limited degree, and the blood, already burdened with the waste products of the body, which the emunctories are constantly removing, is further charged with the disposal of an excess of alimentary principles; retrograde metamorphosis goes on in the blood, and the amount of urea excreted represents not alone tissue waste, but waste of alimentary principles—peptones not converted into tissue.

Dr. Fothergill, while not writing dogmatically on a subject almost beyond demonstration, at least raises the question as to the possibility of a liver at a high temperature being able to perform metabolism, and to convert proteid matters into serum albumen necessary to tissue repair, and further the more probable retrograde metamorphosis and formation of kreatine—kreatinine, tyrosin and toxic products which poison the blood and add to the typhoid state. In connection with this subject of toxic products formed from alimentary substances, it may be well to refer to the curious alkaloids known as ptomaines. These substances, producible from the cadaver in a state of decay, are sometimes found in the alimentary canal in life. The exact conditions necessary to their production are probably unknown except that it is a putrefactive change, but occasionally violent poisoning follows, the ingestion of foods apparently not unwholesome. (I believe the albuminoid substances are invariably present in such cases.) Chemical analysis of the foods not eaten fails to discover any poisonous substances, but in the alimentary canal a poisonous alkaloid is found, which chemists have claimed to isolate. Without asserting anything in this connection, is it not worthy of questioning as to the possibility of such conditions exist-

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ing in the alimentary canals of fever patients as may produce poisonous substances by reaction upon foods which are under favorable conditions wholesome? In the *American Druggist* of September, 1885, is an article on the subject of ptomaines, giving an account of a report of Prof. Brieger to the Physiological Society of Berlin on the subject:

"Seeing that the ptomaines must here be regarded as the products of the pathogenic bacteria, Prof. Brieger set himself the task of studying the products of pathogenic bacteria."

Following this, after giving an intricate account of ptomaines which developed under natural putrefaction, it is stated that "It was the culture of the typhoid bacillus in meat in fusionand meat jelly which first led to the isolation of two new intensely poisonous bases, one of which being injected in small quantities into animals acted similarly to neurine, producing death under a strong flow of saliva, paralysis and diarrhœa, while the other produced only violent exhausting diarrhœa. In the *Druggist's Circular and Chemical Gazette*, May, 1886, it is stated that "M. Gautier, at a recent meeting of the Paris Academy of Medicine, presented an important communication on ptomaines and leucomaines." He then discussed the leucomaines or the physiological alkaloids formed in the tissues during life. The animal organism resists this constant auto-infection by means of two distinct processes—elimination of the poison and its destruction by oxygen." This natural oxidization and elimination must be complicated to a certain extent if the blood is charged with the additional and unnatural function of disposing of digested products which diseased tissues cannot assimilate. Having pointed out some of the theoretical dangers of over-alimentation, these theories being based on anatomy, physiology and chemistry, let us turn to the practical or clinical aspects of the subject. The practitioner who administers to his patients having continued fevers a glassful of milk every two or three hours, also a quantity of beef tea, gruel or other liquid nourishment (of the sort considered most judicious in such cases) when there is no relish for it, and perhaps a positive repugnance, which could not be overcome except that thirst calls for liquids of some sort, will often encounter difficulties, some of which are as follows: nausea and vomiting, fermentation and formation of gases and other unwholesome products, increased tympanites and diarrhœa, the discharges in which often show undi-

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gested portion of the ingesta. Even the meat extracts can sometimes be recognized, and masses of casien separated from milk and varying in size from a pea or smaller to the size of a partridge egg are very common. When an excessive quantity of nutriment is swallowed the best thing that can be done with it is to discharge it from the stomach or bowels. If the practitioner is ambitious to stop this wholesome diarrhœa and has in his armamentarium anything which will accomplish his purpose, it will only be worse for his patient, for that which is digested and absorbed and which cannot be assimilated, will help to overcrowd the emunctories, increase the temperature and deepen the typhoid symptoms, and that which remains undigested in the alimentary canal, will cause the distress already referred to, and perhaps cause perforation of the ulcerated intestine, either by increased mechanical friction or by over-distension of the bowels by accumulated gases. I fear that the directions as to feeding which are given in some of our text-books are too literally carried out without necessary discrimination.

Dr. Loomis, after telling us of the degenerative changes in the salivary glands and in the glandular structure of the stomach and of the pancreas, and consequent loss of digestive function, says: "The quantity of milk is not limited, the patient may take all his stomach will digest—usually the patient will take from four to six quarts in twenty-four hours." Let us compare this with the quantity of food necessary for the daily wants of a healthy adult in active life. Dalton's Physiology, seventh edition (latest), page 130, sums up the different nutritive principles requisite as follows:

Albuminous matter	Grammes	130
Starch and sugar	"	300
Fat	"	100
Mineral salts	"	20
Water	"	2000

The imperial gallon, weighing 10 pounds, the standard gallon of the United States, weighing 8½ pounds, and the New York gallon, weighing 8 pounds, are liable to cause confusion when accuracy is desired. I will base my calculation on the New York gallon, as the book is from that State. The average specific gravity of milk being about 1030, there would be in one gallon of nutritive matter, approx

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imately, as follows (there being in milk 43 parts of albumen to the thousand):

Albuminous matter	Grammes	150+
Sugar (nearly)	"	200
Fat	"	125+
Mineral salts (about)	"	14

This shows albuminous matter considerably in excess of the wants of the healthy adult at work. Also fat in excess, and that a substance which a fever patient loathes—sugar of milk deficient, also mineral salts deficient. The patient who can, as the text says, "take six quarts," will have an excess in addition to the above of 50 per cent. This seems to be feeding with reference to the waste of the tissues and with no reference to assimilation or what effect the surplus will produce. Will any patient swallow such a quantity of milk as an average of a quart every four hours, except as an act of compliance with the urgent solicitations of those who have him in charge?

The *Journal of Reconstructives*, April, 1886, quotes the experiments of Reichmann upon the length of time required by the healthy human stomach for the digestion of milk. About one-half a pint of raw milk was usually given at a time, and from time to time was removed from the stomach by the sound and pump. "The quantity mentioned (one-half pint) was found to be digested in three hours, and in four hours the last traces of the acid fluid had left the stomach." At this rate supposing that satiety was never reached and that the stomach kept constantly at work, two quarts would be digested in twenty-four hours by the healthy human stomach. According to Dr. Loomis the stomach of the typhoid fever patient "takes usually from four to six quarts!" [Practical Medicine (a text-book of), by A. L. Loomis, second edition, p. 645.]

Dr. Flint says: "It is desirable for the patient to take as much nutritious food as will be digested and assimilated," and that sentiment, which cannot be gainsaid, seems to be about what all the writers mean, but authors and practitioners seem to have a different conception of what that quantity is; for instance, Dr. Flint says: "It is desirable for from one to two quarts per diem to be ingested."

Dr. Loomis, from whom I have quoted, writes of from four to six being usual. Within a few years a great change has occurred in

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the estimate placed upon beef tea and most meat extracts. Formerly (and often in these days) a quantity of fresh beef or other meat was thoroughly boiled in a little water, and this "tea" was in a great measure relied upon to sustain the patient. Now, it is generally known to contain none of the best elements of the meat and little of anything useful, and as it contains even excrementatious principles or products of retrograde metamorphosis, the grave question is raised as to how much harm is done by adding to the blood principles which in fever are already in excess. Some of these principles are said to be similar in their physiological effects to tea or coffee. Most commercial meat extracts are in the same category. Gelatin, a constituent of beef tea, has been proven to be of no value when taken alone, and even some experiments would tend to show it of no value, even in combination; but as it causes an increased production of urea, it is likely (in combination) of some food value.

Dr. Fothergill, while recognizing the importance of albuminoids, and especially the use of milk, which contains so many elements of nutrition, makes a strong plea for the use of carbo-hydrates in acute and prolonged fevers. He maintains the improbability of tissue genesis during an acute pyrexia* and consequent uselessness of over quantities of albuminoids, while the heat-producing elements are in great demand. Grape-sugar or glucose, in some of its forms, is the most easily assimilated, and should be freely supplied to prevent exhaustion. Dr. J. H. Bennett, from whom he quotes, maintains this doctrine, and supplements the heat-producing carbo-hydrates with alcoholics. Although standard authors advise the use of starchy foods to some extent, such as rice, baked flour, gruel, etc., it is a departure from the accustomed rule to subordinate the use of the albuminoid principles to the use of the carbo-hydrates. In the comparison already made between the different alimentary principles in a gallon of milk and the daily necessaries of the healthy adult, it has been shown that, although the albumen and fat were considerably in excess, the carbo-hydrate milk-sugar was deficient, and also, to some extent, the mineral salts. In the smaller quantity of milk, which is all most patients can use with advantage, the deficiency will be correspondingly greater. The writer has been himself the subject of a continued fever. The first day or two

*He refers to the observations of Drs. Ord and Broadbent, tending to establish these views. [Report to Medical Society of London, 1885.]

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after the confinement to bed only water was taken; every form of nourishment was disgusting, and he cannot believe would have been useful. Then for a few more days only a few teaspoonfuls per diem of Valentine's Meat Juice were swallowed—sometimes with a little relish, sometimes with only a bare tolerance. Tea, with milk and sugar, rain-water, with ice and carbonated waters, were drank *ad libitum* to allay thirst throughout the disease. After the first few days a little milk was taken, also gruel, in small quantities. Butter-milk was far more palatable than unchurned milk, and was relished in considerable quantity and always agreed well in every respect. Clabber was used with the same relish and advantage. Chicken-water, with starchy substances, was occasionally used. Alcohol sparingly; toward the last Hoff's Extract of Malt;* and in no single instance was any one of these alimentary substances swallowed without at least a tolerance, and often with a little relish, especially as to the butter-milk and clabber, the slight acidity of which substances tends to make them agreeable to the thirsty fever patient. And theoretically they have advantages over unchurned milk, which in any considerable quantity furnished more fat than the fever patient can dispose of, and usually, there being considerable adipose tissue in the body, the want of this substance is not felt to the same extent as with the albuminoids and carbo-hydrates. The small amount of histogenesis which can be accomplished under such circumstances, will not be retarded for want of the fat necessary to the process. The lactic acid ($C_3H_6O_3$) which butter-milk and clabber contains is a carbo-hydrate, and from its acidity will render palatable the addition of other carbo-hydrates, such as extract of malt, honey (a mixture of glucose and saccharose and a little wax, etc.) or cane-sugar. In the attack of fever referred to neither appetite nor tolerance was ever wholly subordinated to mere theories of feeding. When food could not be taken without disgust it was not taken. When for many days at a time there was nothing which would do to call appetite, the articles already referred to were taken at intervals of a few hours in small quantities and always within the limits of an easy tolerance. Throughout the illness there was but little gastro-intestinal disturbance, but the loss in weight averaged nearly a pound per diem through a period of three weeks.

*An alcoholic pleasant beverage, containing nutritive carbo-hydrates.

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No method of treatment of typhoid or other continued fevers of serious nature is of the undoubted value of judicious alimentation. The question of what we shall do, and how we shall do it, becomes a very grave one when we consider the theoretical and practical dangers of the subject. When we consider, on the one hand, the danger of starvation from too great an abstinence from food or too great a reliance on articles (such as ordinary beef tea) of little or no food value, and on the other hand of over-feeding or the giving of different alimentary principles in injudicious proportions, perhaps too much of one and not enough of another.

The prominence given by Dr. Fothergill to the use of the carbohydrates in continued fevers is unusually great, most authors giving greater prominence to the class of albuminoids. There will probably be some changes setting in the direction of Dr. Fothergill's views. In deference to his advocacy of grape sugar or glucose, as well as to the desires of fever patients, I have in a few cases used the juice (excluding everything else) of the ripe scuppernong grape, in which glucose exists in its natural state. In no case have I any cause to regret it. In a few cases I have used the juice of the Malaga grape, which is not half so rich in glucose. In one case, that of a vegetarian, who was accustomed to eating grapes, the Malaga grape juice was taken with relish and apparent advantage. This patient had been sick about three weeks when I first saw him. From his prejudices and peculiar mode of diet, eating only once in twenty-four hours, he was at a very low ebb, having an almost unaccountable hiccough. He had fever forty days and recovered—proving both the error of starvation and the possibility of living under it with a fever during three weeks. My last fever patient, one now convalescent from an attack of continued remittent fever of three week's duration, was given Malaga grapes several times, but they did not seem to agree with his stomach very well. He voluntarily rejected them. There can be no arbitrary or invariable rules in regard to these matters. The individuality of the patient belongs to him, whether sick or well. It is not the fever which needs to be fed, but the patient; and this fever-stricken individual has his generic and his specific wants—generic in all that constitutes the selection of alimentary principles with reference to the physiological functions of persons in general—specific with reference to all that constitutes individuality, ranging in varying

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degree from the common type to the most peculiar idiosyncrasy. The patient's tolerance or intolerance as regards desire of what is offered him must be a strong indication as to what nourishment he should take. Food should certainly not be taken in any greater quantity than it can be digested and assimilated. If much milk is taken which has not been previously peptonized by some digestive agent, such as extract. pancreatis and sodii bicarb. or lacto peptine swallowed with it, portions of it will usually pass through the bowels undigested and generally in the form of separated masses of casein. Neither will the starches be digested except in proportion as there are salivary, pancreatic and intestinal juices to convert them into glucose. Where soluble glucose and peptones ready formed are administered, the question arises as to what extent they can be beneficially disposed of in the economy. The experiments of physiologists have determined that glucose by dehydration is stored in the liver in the form of glycogen, and that this glycogen by hydration is from time to time reconverted into glucose, which is constantly fed out to the blood of the body in general, thus insuring a constant supply between the acts of feeding and digestion. In some cases of typhoid fever the liver is said to undergo but little structural change; in such cases it can most likely perform these functions, but in those cases in which it undergoes a degeneration of its glandular structure, it is not reasonable to suppose that its functions can be executed and theoretically the glucose would be better ingested in small quantities at shorter intervals. As to the peptones, the evidence is in favor of the assumption that histogenesis cannot go on, not at all commensurate with the waste during an acute pyrexia, and that retrograde metamorphosis can occur to a harmful degree in the blood. In this connection the grave question arises as to the possibility of doing more harm by the administration of digested than of undigested alimentary principles, as the latter are more readily discharged from the alimentary canal than excess of the former from the blood. I think I can safely say that I have often seen benefit from the use of digestive agents or ready digested aliments in acute pyrexia, as in other conditions, although the danger of digested excess of milk peptones, beef peptonoids, etc., is a real one, and if the patient without power of digestion has a conservative loss of appetite, has not also the patient without power of assimilation a conservative loss of digestion? In view of

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the subjects and questions herein discussed, it is evidently not an easy task to feed the continued-fever individual patient with the best articles possible in the best possible proportions. Our greatest efforts will probably be only an approximation to this highest standard of excellence, and if we ignore alike the cravings and the disgust or the tolerance and the intolerance of the patient, and substitute the routine dietary of books, the opinions of authorities, or the apparent indications of science (although these are of great value), we shall make many mistakes. The inclination of the patient is a voice from within, an intelligence intimately connected with those processes in the tissues which determine their acceptance or rejection of nutriment. Degeneration of the glandular elements of the various digestive organs, rapid histolysis, increased waste products and defective elimination are voiced in that way. "It is a sound maxim in medicine that the therapeutic indications derived from science and from nature, as a rule, should harmonize," and when the scientific guidance of the physician and the instincts and desires of the patient go hand in hand, there can be but little difficulty in fulfilling the indications. There are instances where the fever process or poison so overwhelms the faculties of the patient as to deprive him of any choice in the matter, perhaps these cases would be fewer if alimentation was more judiciously performed from the first. Prof. Austin Flint (address to the New York Medical Association, 1884) quotes a German experimenter as having claimed to produce fatal toxæmia in dogs by the use of "beef tea," the excrementitious principles of which produced that effect. And innutrition itself tends to stupefaction, as also does the presence in the blood of unassimilable peptones (unassimilable from antagonism of histolysis to histogenesis). It is in these cases where the physician is deprived of the guiding instincts of the patient that he will naturally experience the greatest difficulties in alimentation. He has then to consider what are the wants of the healthy, active human body—both as to quantity and quality of alimentary principles, and what are the powers of that body as to digestion and assimilation, and then to consider these matters with reference to the fever-stricken patient, and what modifications are necessary on account of his disease and his individuality. Then, being impressed with the fact that it is easy to give too much, give rather too much than too little; for we can by scrutiny detect some of the manifestations of redundancy, and it is, perhaps, if err we must, the safer side on which to err.

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SELECTED PAPERS.

ADDRESS ON SOME NEW ASPECTS OF THE CHOLERA QUESTION SINCE THE DISCOVERY BY KOCH OF THE COMMA BACILLUS.

By E. O. SHAKESPEARE, M.D., of Philadelphia, lately United States Cholera Commissioner.

Delivered before the Medical Society of the District of Columbia, March 16, 1887.

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At the commencement of the invasion of Egypt, in 1883, by Asiatic cholera, it has been pretty well agreed, as you know, by most of the medical world, including the gentlemen, who, under the direction of the Marine Hospital branch of this Government, made an investigation and a most valuable report of the last cholera epidemic in this country—that of 1873—that the disease was, in all probability, due to a specific action of a specific virus, which, in all probability, was of material form, which had a natural habitat in some part of India, and was exotic in the rest of the world. They regarded cholera as a contagious or an infectious disease; that is transmittible from man to man, and, therefore, transportable from place to place in various ways. So that, when Koch undertook to discover this specific germ, he did nothing more than endeavor to bring before the eyes an object which already was believed to have an existence.

And, notwithstanding the fact that various micro-organisms in past years had been found associated with cholera, because of the fact that Koch was the recognized leading bacteriologist of the world—with the exception, perhaps, of Pasteur—and because of the fact that in all of his announcements to the medical world of his previous discoveries he had universally, as I understood, without exception, received a wide confirmation of the announcements which he had made. Therefore more than a usual degree of expectancy was created by the mission of Koch to Egypt and India, with a view of undertaking an investigation of the etiology of cholera. When his announcements were made, in various bulletins to his

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Government, of the discovery of a peculiar orgnism in the dejecta of cholera patients, with characters enabling one to distinguish it readily from all other micro-organisms; and when he announced at the same time that this micro-organism was not to be found in any other disease, and therefore constituted a reliable diagnostic sign indicative of Asiatic cholera, many medical men throughout the world were already predisposed to accept these announcements as at least worthy of serious investigation. The result of his discoveries confirmed the conviction of those who believed in the existence of a living contagium as the cause of cholera, regarded cholera as a contagious or communicable and a transportable disease, and also thought that in order to prevent visitations of the rest of the world by cholera, some quarantine measures and other means of prevention, as absolutely necessary to be enforced.

The English Government was being most interested in the question of quarantine, and held—especially their representatives in India—that there is nothing contagious about the disease, that it was no more transmittible from place to place than malaria, and that measures of quarantine and other restrictions are not only useless, but unjustifiably harmful to the conduct of trade between the East and the West. That Government was, therefore, naturally the first to send out another Commission to the scene of Koch's labors, for the purpose of reëxamining his investigations. As you know, that Commission returned to London in due time, and published a report in which not only the conclusions of the German Commission were contested, but almost every detail of the report of that Commission was flatly contradicted; at the same time the report of the British contained indirect statements—I should rather say, contained statements which indirectly supported the assumption very widely entertained by high officers of the British Government, and particularly those in India, of the non-infectiousness of cholera dejecta. Following this contradiction many others occurred in due course, but is not necessary for me here, nor have I the time to relate them.

The United States Government, being as much interested in the question of the etiology and the prevention of cholera as any other by reason, at least, of sixty millions of inhabitants (a number almost twice as great as the inhabitants of any European country outside of Russia), concluded that it would be advisable to have the

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grounds of these differences of opinion investigated by one of their own representatives.

I went to Europe in the fall of 1885, when the cholera was almost ended there. It was, however, still existing in the City of Palermo and in some parts of Spain. I went to Palermo because that was the largest field of investigation at the time, and I remained there until the epidemic ceased. From there I went to Spain by way of the Italian and French Riviera, stopping at different places which had been visited by cholera in 1884 and 1885, for the purpose of examining into their hygienic condition and of learning something of the history of the epidemic in them. I reached Spain when cholera was no longer existing in that country—that is, acknowledged officially as existing—except in the south, along the Straits of Gibraltar. I had ample opportunity to make bacteriological investigations concerning the relation of the comma bacillus of Koch to Asiatic cholera, as well as the relation of other germs to that same disease, as also opportunities to inform myself concerning the grounds of difference between Koch and his opponents as regards matters of fact. These opportunities were also somewhat extended by my visit to India. I had no difficulty whatever in confirming the statements of Koch with regard to the constant existence of the comma bacillus in certain stages of Asiatic cholera in the dejecta of patients suffering from that disease; and in confirming also his statements as to the distinctive characteristics of the bacilli distinctions, which enable one to separate them readily from all other micro-organisms known up to the present time.

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I can only say that I agree entirely with Koch as to the diagnostic value of the comma bacillus, and therefore disagree with the conclusions published in the first report of the English Commission, with Dr. E. Klein at its head. I would say at this point that I regard this as the most important point of Koch's investigations. In the discovery of a reliable and an easily applicable distinctive means of diagnosis of Asiatic cholera at the very first moment of invasion of a locality or a country, I consider that Koch has conferred upon the human race an inestimable benefit, for, with the proper application of this means of diagnosis, health authorities and governments will now more than ever before have it in their

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power to prevent an invasion of cholera and cut short the spread of an epidemic. The value of this discovery, as I have said before, I consider incalculable.

But as to the other part of the claim of Koch—for his claim is two fold—in the first place, the discovery of a reliable diagnostic sign; in the second place, the discovery of the active agent or cause of Asiatic cholera—I think there is still reasonable ground for doubt. The fact that, so far as we know at present, there are none of the domestic animals which are naturally susceptible to this disease, makes it difficult to settle the question as to the pathogenic power of the comma bacillus by means of experimentation upon animals. It is true that a *quasi* cholera has been and can be readily produced in Guinea-pigs, and according to some also in dogs and rats, by the inoculation of these animals with pure cultures of the comma bacillus of Koch; but there is lacking the complete chain of symptoms with which we are familiar in genuine Asiatic cholera in man. The vomiting is usually absent, and also the diarrhœa; nevertheless, a cyanosis, or algidity, and sometimes the cramps, and the death of the animal with the well-known characteristic intestinal contents are met with after the inoculations. I myself have performed numbers of these inoculations and satisfied myself as to that point. But still there is a question—at least in the minds of a great many—as to whether the symptoms following inoculations of these germs are really those of Asiatic cholera or not, and on that account it seems to me that the question of pathogenesis of cholera must for a time remain open. In the course of my remarks I shall have occasion to say something about the results of the human inoculations which were extensively performed in Spain, with cultures of the comma bacillus.

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I now drop the subject of bacteriology and come to another point which had been more or less overlooked in an extraordinary way up to the time of the present epidemic, although scattered observations appear here and there in the history of the subject—observations, I may say, however, made by the most distinguished writers on the subject. I refer to certain peculiarities which have been noticed in the course of cholera in individuals, in villages and in countries. James L. Bryden was the first to point out the periodicity of epidemics of cholera in India, but did not undertake to explain it

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except by the influence of the monsoon. Subsequent investigators of cholera in India have also noticed this periodicity. The periods of recurrence of cholera epidemics in different parts of India range from three to four years, as a rule, whilst the periods of recurrence of small-pox vary from five to six years. For the provinces outside of the endemic area there is a very marked periodicity and a very considerable similarity between the rise and fall of cholera and of small-pox. Charts showing the annual mortality from cholera in the other provinces strikingly indicate the periodical character of epidemics of cholera in various sections of India.

This periodicity has attracted the attention of many investigators, although the fact seems to have passed by without any general notice, and yet it seems to be closely connected with the explanation of some of the important peculiarities of cholera in India as well as elsewhere. It has been noted in India, for instance, that instead of cholera advancing down the course of the rivers, it invariably travels up them in certain countries. In the eastern part of India, in the epidemic years, cholera travels up the Ganges toward the northwest, instead of moving down stream. The movement of an epidemic down the Ganges to Bengal is unknown in the history of cholera in India; the only part of Hindostan where it often goes down with the current is in western and southern India.

Another remarkable and hitherto unexplained fact is that cholera dies out in the localities visited without having smitten the whole population; and the further fact that where large percentages of the inhabitants of a place invaded by cholera flee to a distance and subsequently return to their homes before the epidemic has entirely ceased, the ravages of the epidemic continue mainly among the returned refugees; in other words, among the people who have not become subjected and habituated to the cholera influences which are still prevalent in the town to which they return, is still more inexplicable. Then, again, there is the strange fact that a recurrent attack of cholera is an extremely rare thing. It is, indeed, so rare that very few people whom I met with in the countries where they severely suffered from cholera, had ever seen a recurrent attack of it in the same epidemic. Recurrent attacks in a second epidemic are not extremely infrequent, but it appears to be quite as rare to observe a recurrent attack of cholera during the same epidemic in a person who has recovered complete health after his first attack,

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as to see such a thing in scarlet fever or measles, or I might say also in small-pox.

In speaking of these questions I might refer to the researches of my friend, Dr. John L. Keating, of Philadelphia, who is greatly interested in the diseases of childhood, and who, at my request, kindly looked up some records regarding early recurrences of scarlet fever and other infectious diseases for use in my official report. I regret that time does not permit me to lay before you the valuable table which he has furnished, but I will read you a portion of his letter accompanying it, as follows: "I may say that, as a rule, all the zymotic diseases protect from recurrent attacks, or at least have a tendency to lessen the severity of these recurrences, the exceptions which prove the rule occurring very frequently in each disease." "In my table I have not included the relapses which are most frequent in typhoid fever, but I have only mentioned those attacks that have been followed by restoration to health, and in which, after a shorter or longer period of time, there has been a recurrence of the disease; measles present these peculiarities oftener than any of the others, but it is by no means uncommon in variola, scarlet fever and whooping-cough." In this table, in the main relating to well authenticated early recurrence of scarlatina, many instances of recurrence in two or three weeks of attacks of scarlet fever and measles are recorded.

When in Spain I addressed a series of twenty-four questions bearing upon the cholera in that country to the physicians of every village in that country which had suffered from cholera in 1885. Among those twenty-four questions was one which requested the physician to inform me whether he had any personal knowledge of a recurrent attack during the same epidemic; if so, to give me the details. Among the large number of replies to the 2,500 letters which I thus addressed, I received only eight which related to recurrent attacks. Six of those eight recorded, according to the details given in the letter, appear to have been *relapses* before the establishment of perfect health, after imprudences in diet and imprudences of other kinds, rather than recurrent attacks of cholera, and the number was thus reduced to two, which may have been genuine recurrences or have been attacks of cholera-morbus (or nostras).

The French Academy likewise addressed a series of questions to the villages in France which had suffered from cholera in 1884, and one of the questions in their circular letter bore upon the same point. In

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the replies received an account of ten recurrences (or relapses) the distinction between relapse and recurrence was not made in their replies.

These are matters which have attracted the attention of some of the most distinguished observers, and caused them to admit an immunity following an attack of cholera, as you will notice when I cite some of the history of the opinions of authorities upon this point. Among the early writers is Morceau de Jonnes (1832), who said that: "If a few rare or doubtful cases are excepted, it (cholera) does not attack the same individual twice, although he finds himself under the same condition as when he contracted the disease." Dr. Sámano, of Spain, in 1858, declared that "genuine cases of relapses are few, and recurrences are still more rare," and Lebert, one of the most distinguished investigators of his time, firmly believed in the immunity which an attack of cholera confers.

Many of the International Health Congresses discussed this matter, particularly that of Constantinople in 1866. They distinctly admitted in their conclusions, adopted by a unanimous vote, that there is a certain amount of immunity which is produced in a town by a visitation of cholera. Speaking of the pernicious effects of crowding together of people, they point out as an amelioration that an habituation to the choleraic influence and the experiencing of choleraic attacks, counterbalance these bad effects; and they said the same of crowds upon ships. The next in order of time (1868) is Griesinger, who distinctly stated that next to good hygiene and pure water, an attack of cholera is the greatest protection against the invasion. Colvin (in 1879), although he distinctly expressed as his conviction that there is no such thing as immunity against an attack of cholera, in the course of his book refers to facts which most positively support the assumption of an immunity, particularly in the history he gives of cholera in the Crimea during the war, and in the accounts of some military epidemics.

In later times (1883) Dr. Proust, the distinguished hygienist of the University of Paris, as also Fauvel, another distinguished hygienist of France, after a thorough discussion of the facts of the subject, most positively declare that there is an immunity following an attack of cholera, more or less lasting, as there is with the other infectious contagious diseases, and they class cholera in the latter category. Dr. Proust ends his remarks on that subject thus:

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"Indeed, the facts newly acquired by science relate to questions of immunity and illuminate them from a side heretofore unknown.

"The etiology and prophylaxis of cholera in particular may deduce from it (immunity) new indications.

"These facts, moreover, appear to be the expression of a law which embraces the whole of another special category of pestilential diseases due to a contagium and leaving after them an immunity more or less lasting."

Greisinger, Wunderlich and Pettenkofer, in their "Cholera Regulation," most unequivocally affirmed the existence of an immunity of considerable duration and force. And lastly, we come to Koch, who, in the discussions of the cholera question before the recent Berlin Cholera Conference, after relating the facts upon which his conclusions were based, most positively expressed his acceptance of an immunity, more or less lasting, from an attack of cholera, and classified that disease among other zymotic diseases which are followed by immunity. He affirmed that unless the immunity theory be accepted, there is no possible way of explaining why it is that epidemics cease in a town without attacking the whole of the people who are living together under miserable conditions, and why it is that recurrences are so extremely rare, and there is no other way of explaining satisfactorily the peculiarities of the course of cholera in India, viz: the periodicity of the disease there, and the fact that it travels up rivers in the East, instead of going down them. But I cannot occupy your time further in the citation of distinguished investigators, who, up to the present time, have regarded cholera as among those diseases which confer a more or less lasting immunity after an attack, and I shall be obliged to leave unsaid much of that which I intended to speak.

I have spoken of the immunity which follows an attack of cholera. I believe immunity to be as certain a sequel of cholera as it is of most of the other zymotic diseases. Otherwise it is impossible to explain why it is that a person in the early part of a long epidemic suffers the disease and recovers, with his digestive apparatus in a miserable condition, perhaps with chronic dyspepsia and chronic diarrhœa for weeks and even months, and yet that person, living under the same conditions under which he took the disease, passes through the epidemic free of a second attack, especially so in view of the fact, as is well known, that in a person who is not already protected by a previous attack, digestive disturbances are very sure to dangerously increase the predis-

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position to an attack of cholera. And yet, as I have pointed out, it is the rarest thing to meet with a second attack of cholera in the same person in the same epidemic.

This brings me to the question of the Ferran anti-choleraic inoculations. The German Commission stopped with the announcement of their belief in the immunity which follows cholera, not dreaming of making any practical applications, notwithstanding their reference to the practical use of this immunity which the Indian Government makes in their directions for the government of the troops during epidemics of cholera. I allude to the standing orders to select the nurses from the native population, and especially from that which has recently experienced an epidemic of the disease. Ferran, as you know, became notorious throughout the world from his announcement of a preventive inoculation against cholera. Previous to this announcement, I may say, that Dr. Ferran was regarded in Spain as one of the leading, if not the most prominent bacteriologist in the country, he having been awarded a year or two before a gold medal by one of the medical institutions in Madrid, for researches relating to bacteriology. His reputation as a bacteriologist and as an earnest, reliable investigator, was such that, when the cholera broke out at Toulon, he was selected by the Government of Barcelona as the head of an official Commission to go to Toulon for the purpose of investigating the cholera and reporting officially. His first communication on the subject of inoculation was addressed to the municipality of Barcelona, and sometime after his return from Marseilles, and was referred to the Royal Academy of Medicine, of Barcelona, which is regarded in Spain as perhaps the most distinguished medical body in that kingdom, for their judgment of the report. That medical body appointed a Commission to investigate the grounds of Ferran's claim. The investigation ran through two or three months, comprising experiments by Ferran performed before them upon Guinea-pigs, the making of cultures, and the performance also of human inoculations, to a certain extent, among the members of that Academy mainly. The report of that Academy was confirmatory in most respects of the announcement of Ferran, and it was this report upon the Ferran question which first reached and excited the interest of the rest of the world.

The French Government, among the first, as also the Belgian, sent a Commission to Spain to investigate the grounds of Ferran's

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claim. Upon their arrival in Spain they laid down a programme for Dr. Ferran, but he refused to follow it, suggesting, on the other hand, one of his own for them to follow. The result, as you know, was that the official investigation of the Commissioners ended before it began, and the Commissioners went back to their respective countries, much chagrined, and reported unfavorably to Ferran. Still the medical profession and the public of France were not quite satisfied with this report, and another Commission was sent, with Dr. Brouardel at its head, associated with two other physicians, one of them a recently graduated medical student, who was selected mainly on account of his knowledge of the Spanish language. (Neither Dr. Brouardel nor the other Commissioners were able to speak Spanish, and none of them, by the way, were bacteriologists, however distinguished they are in other respects.)

The second Commission met with pretty much the same reception as had the first, and undertook to enforce the same sort of programme which the first had attempted to lay down for Ferran, and with no better results. After breaking off negotiations with Ferran, the second French Commission undertook to collect the statistics then existing (they were in Valencia in the summer) of the results of the human inoculations which were being so extensively practised by Dr. Ferran. In the meantime, however, the Spanish Government itself had appointed three Commissioners to investigate the Ferran question, and those Commissioners had reported that the inoculations were harmless, and that they were made with pure cultures of the comma bacillus of Koch, thus exploding many widely published statements to the contrary, and recommended that they be continued. The statistics collected for, and presented to, the Minister of Commerce of France by the second French Commission, and the criticisms which have been made concerning them, are practically the only *quasi*-reliable data which the rest of the world had of the results of the inoculations in Spain. The objections raised against the statistics obtained by Dr. Brouardel (such as they were, strongly in favor of the claims of Ferran), were that they were not detailed enough; that they did not have any real official character, and that they were collected by the partisans of Ferran. The judgment of the world, myself among the number) of course naturally was most uncomplimentary to Dr. Ferran and to his anti-choleraic inoculations. When I reached Spain, however, I found that by that time

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the official statistics had been collected, and that they had been collected, not by the partisan's of Dr. Ferran, but by the representatives of the Spanish Government, who from the known history of the Ferran question in Spain, at least, cannot be accused of being friends of Ferran.

The Provincial Governments are somewhat peculiar in Spain in that these Governments change with the changes of the Cabinet at Madrid; so that the Provincial Governors always reflect the sentiments of their respective ministers at Madrid. It is no secret in Spain, but very well-known that the Ferran inoculations received no favor, and, in fact, active hostility from the Minister of the Interior at Madrid, and the same sentiments towards Ferran personally and towards his work were reflected among the political officials throughout the various provinces in Spain wherein the inoculations were practised. The same also may be said with regard to the Governments of the municipalities; they were also subject to the political influences of the Provincial Governments, and therefore also to those of the Government at Madrid. The Spanish Government ordered at the time of the appointment of the second Commission that official and careful statistics should be collected concerning the Ferran inoculations, by the usual or by special officers for that purpose. In this manner provision was made for the collection of official statistics, which, by the way, had been collected and published some weeks and months after the publication of the unofficial statistics obtained by the Brouardel Commission. The official statistics are signed and attested, in the first place, by the physicians of the villages where the inoculations occurred; in the second place, by the municipal judge; in the third place, often also by the president judge of the judicial district in which the village is located; in the fourth place, they are attested by the curé of the parish; in the fifth place, by the secretary of the municipality and by the mayor; and lastly, they are attested by the notary public of the district. So that, of official formality, there seems to be no lack.

These official statistics, whatever value they may otherwise have, cannot now be subjected to the same charge which Brouardel made, very justly, against those which he obtained. They still lack detail in many respects, usually failing to indicate the social position and the hygienic surroundings of the persons attacked or

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inoculated. Such as they are, however, they seem very strongly to support the claim of Ferran that there is an immunity against cholera, produced by the inoculations of the comma bacillus of Koch. The nature of these statistics is such, and their results so striking, notwithstanding their great faults, that it now seems to me imperative that Governments of Europe and of this country, and serious scientists throughout the world should reëxamine this whole matter for the purpose of getting at the real truth of the question as to whether there is or is not an immunity produced by the inoculations of cultures of the comma bacillus of Koch.

I referred a few moments ago to these inoculations being the only ones which were made with the comma bacillus to any extent in the human subject. Ferran himself, and one or two other investigators, as a basis for attempts at inoculation in man, claim to have produced immunity in the inoculated Guinea-pig. I may say just at this point that I was very much surprised in India in an interview with Dr. Cunningham, the celebrated cholera authority there (known throughout the world for his investigations), who told me most positively that he had produced such a condition in Guinea-pigs which he had inoculated hypodermatically with cultures of the comma bacillus of a certain amount, that it was impossible to kill the same pigs with subsequent inoculations which in fresh Guinea-pigs would prove certainly fatal. This is, perhaps, the most important confirmation which the statement of Ferran concerning an immunity produced in animals by means of inoculations by the comma bacillus of Koch, has yet received. I mention this point for what value it may have. I refer to it, also, as an interesting matter, because it shows that Dr. Cunningham, who, after the departure of Koch from India, set himself to work seriously to investigate the relations of the comma bacillus to cholera has radically changed his views concerning Koch's discovery since prosecuting those investigations. From an opponent he has come to be a strenuous advocate of the first part of the claim of the German Commission; that is, that, with the comma bacillus, we have found a reliable means of diagnosis of Asiatic cholera.

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One of the statements made by the foreign official Commissions that went to Spain reflected very severely upon the knowledge of Dr. Ferran of the rudimentary principles of histology, bacteriology

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and microscopy. I can only say that my personal experience in Dr. Ferran's laboratory was entirely different from that. I have photographs of some of his preparations, and I venture to say that no handsomer photographs have been made with a microscope anywhere in the world, and no more handsomely stained preparations of the comma bacillus, and no more pure specimens of the comma bacillus in gelatine have I seen in the laboratories of Berlin or of Paris than I saw in Dr. Ferran's laboratory, modest though it was, in the city of Tortosa, where he lives. I may say that, although Dr. Ferran may be mistaken, and probably is, in some of his claims, especially with regard to the morphology of the comma bacillus, and he may also be mistaken in his views about inoculation, my own personal experience with him, and what I could learn from disinterested sources in Spain from all sides, leads me to believe that, instead of being the charlatan he has been represented, he is a gentleman, in the first place, and in the second place, a well-informed physician, an investigator and a microscopist of no mean skill; and that whatever he may have stated about this matter of anticholeraic inoculation, it is his honest belief.—*Journal of the American Medical Association.*

SUPRAPUBIC CYSTOTOMY—ITS TECHNIQUE ILLUSTRATED BY ANATOMICAL PREPARATIONS.

By Frederic S. Dennis, M.D., Professor of Surgery in Bellevue Hospital Medical College, New York.

[Read before the American Surgical Association, May 11, 1887.]

The revival of suprapubic cystotomy awakes great interest among surgeons throughout the civilized world. In former years the high operation was reserved for large calculi which could not be removed by any of the perineral operations. The weight of mortality was so high that the operation was considered justifiable only in extreme cases. At the present time, through the influence of the writings and demonstrations of Garson and Petersen, suprapubic cystotomy

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has become a recognized operation for the removal of calculi of all sizes and of all descriptions and under all conditions.

In addition to the removal of stone, the high operation has opened up a new field to the practical surgeon. Vesical tumors and ruptures of the bladder are now operated upon where heretofore no operation was performed. This great change in operative procedure has been brought about by anatomical demonstrations and by experimental work upon the cadaver. The results of these experiments have proved the safety of exploration of the bladder by the sectio alta. It is interesting to observe in this connection the different stages through which the operation has passed, from the earliest recorded dates down to the present time.

In studying the history of the operation in chronological order, one is forcibly impressed with the fact that the present complete and perfect method of performing epicystotomy is not due to the entire work of any individual. The operation, as it is now performed, according to the technique recommended by Garson and Petersen, has been the result of a gradual growth and steady development. The work of the anatomist has been supplemented by the surgeon. Practical applications have been made of knowledge obtained by experimental work. Suprapubic cystotomy of the present century differs from the suprapubic cystotomy of the sixteenth century only in the perfection and completion of the details. The same general principles were formerly recognized, as I shall endeavor to point out, and it has been through the improvement of these different methods that the present complete operation has been perfected. In other words, improvements in the technique, rather than the introduction of any new principle, have given us this eminently satisfactory operation. I shall endeavor to prove that the suprapubic operation of to-day owes its parentage to the original operation.

* * * * * * * *

A brief historical sketch of the suprapubic operation is pertinent, in order to appreciate the important changes through which this operation has passed. There is no authentic description of the suprapubic method until it was performed by Pierre Franco in the year 1561. Franco performed the operation upon a boy, but did not commend it to the profession. Rousset, in 1581, wrote a careful description of the operation, and highly commended it to the pro-

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fession. Rousset's paper deals with the operation from a theoretical point of view, and King Henry VIII. promised him several criminals for experimental work in order to demonstrate the operation in a practical way. The king died and Rousset was unable to prove the value of his suggestion by any demonstration upon the live human body. The operation now fell into disuse until 1635, when Mercier advocated it in a thesis before the Faculty of Medicine in Paris. Bonnet performed the operation with success in 1681 at the Hotel Dieu. Proby, in 1694, explored the bladder by the high operation for the removal either of a calculus or a foreign body. Historians do not agree in their accounts as to the object of the operation. Such is the brief historical sketch of this formidable operation until John Douglas, of London, reported four successful cases in 1723. Cheselden, in this same year, published a paper upon the operation, and afterward became its great champion. In 1727 Douglas had performed the operation nine times, with but one death; and Cheselden six times, with but one death. Thornill had twelve cases and only two of them died. McGill had five cases.

At this epoch, when the results were comparatively brilliant, the introduction of the infrapubic operation caused the suprapubic operation to fall into disrepute; not on account of its failures, but owing to the great *éclat* with which the perineal operations were received. Cheselden improved and developed the perineal method of the monk Frère Jacques, who began his operations in 1695, and of Rau, the Holland surgeon, and Cheselden then became the champion of the perineal operation, as he had been of the high operation. The suprapubic method was but little practised until Frère Comes revived the operation, and in 1779 published a description of his own method of performing suprapubic lithotomy. He made an opening in the membranous portion of the urethra, through the perineum (boutonnière), for the purpose of introducing a sound with a stylet (sonde á dard) in order to pierce the bladder just behind the symphysis pubis.

Since the time of Frère Comes the suprapubic operation has been seldom employed until the introduction and practical application of Garson's and Petersen's experiments. From its earliest history to 1851 Gunther could only collect 260 cases. From 1850 to 1879 there were but few cases reported. From 1879 to the present time the suprapubic operation has been performed by many surgeons,

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and with such uniform success as to attract the undivided attention of surgeons throughout the civilized world. Reports of the brilliant success which has attended this modified suprapubic operation come pouring in from every land, and the time has now arrived when the shackles which have hitherto trammelled this operation shall be thrown aside and the results critically examined in an impartial and honest spirit.

The prophetic words of Dr. Roberts, uttered at a former meeting of this distinguished Association, in which he stated "that within ten years the suprapubic operation will be the operation adopted for all cases of stone that are not treated by Bigelow's operation," are now almost realized. I would venture to remark that the time is not far distant when there will be but practically two operations for stone in the bladder, the suprapubic lithotomy and litholapaxy. If future experience demonstrates that a return of calculus occurs in a fair percentage of the cases after lithotrity from débris left behind, and that the mortality of the suprapubic is reduced to a figure equal to, or less than, perineal lithotomy, then suprapubic lithotomy with its special advantages, will be the recognized operation of the day. If it can be shown that the mortality in the suprapubic operation is due, in great part, to causes which may be prevented in these days of antiseptic surgery, there is no doubt as to the future of the operation. It is simple in its tecnique, safe in its execution, radical in its results, free from injury to the reproductive organs, curative in its application, and, finally, brilliant in its statistics. With all these advantages, time will soon determine the place which this operation is destined to take among the recognized surgical operations. On the other hand, the many and serious accidents which follow the lateral operation are avoided.

The technique of the operation of opening the bladder by the suprapubic method is worthy of consideration. A few days previous to the operation the patient can be put upon a milk diet, and the day previous to the operation the bowels should be freely moved by a dose of castor-oil, and the morning of the operation an enema should be given, so as to empty the rectum for the introduction of the rubber bag. The hair should be shaved from the pubes and the parts should be thoroughly washed and scrubbed and irrigated with a solution of bichloride of mercury or carbolic acid. This ablution should be repeated at the time of the operation. The patient being

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fully under the influence of ether, is prepared for the operation. The surgeon should first introduce the India-rubber bag into the rectum. The bag should be oiled and should be carried well up the rectum so as to be above the internal sphincter. Into the rubber bag are injected, slowly, twelve ounces of warm water; at least I would recommend this quantity as the standard, and from it the amount can be slightly increased or diminished, according to individual circumstances. Instead of water, air can be used to inflate the bag, as suggested first by Milliot in 1875, at Lyons; but the water, for obvious reasons, is preferable. If the patient is a boy, instead of an adult, less than twelve ounces of warm water must be injected. The surgeon should bear in mind the danger of rupture of the rectum, especially in elderly people and young boys, and exercise judgment in regard to the proper quantity of water to be injected in any given case. Serious mischief has followed the careless use of the rubber bag during dilatation of the rectum. In one case, where 18 ounces were used, the rectum was lacerated.

The next step in the preparation of the pelvic viscera for the suprapubic operation is the distention of the bladder. Here, again, the surgeon must be very cautious lest he inject too great a quantity of water. A silver catheter should be passed and all the urine drawn, and then into the empty bladder about half the quantity of water should be carefully injected that was used to distend the rectum. The quantity should be about six ounces; at least this amount might be taken as a safe standard and variations made according to individual circumstances. The liquid should be antiseptic, and the best is Thiersch's solution, which contains boro-salicylic acid. The solution should be slowly injected, and the surgeon should notice the ascent of the bladder above the pubes. He should also observe the amount of resistance offered to his hand during the distention of the bladder. The same caution here is advised as during the dilatation of the rectum; because any undue force might rupture the bladder, as has happened in several experiments. An India-rubber tubing can be passed around the penis after the catheter has been removed to prevent the escape of the antiseptic fluid which has just been injected for the purpose of distending the bladder. If the assistant's finger is placed over the open mouth of the silver catheter, or, better, a small plug into the end of the catheter, the escape of the fluid will be prevented, and

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the silver catheter will also serve as a guide to cut upon when the bladder is exposed. This use of the catheter avoids the necessity of withdrawing the instrument and of reintroducing another into the bladder to serve as a guide to cut upon after the viscus is exposed in the wound. The distention of the bladder after dilatation of the rectum increases the distance nearly three inches between the symphysis pubis and the anterior cul-de-sac or pubo-vesical fold of the peritoneum. The membranous and prostatic portions of the urethra are stretched, as has been shown by Sir Henry Thompson.

The patient being placed upon his back, with his pelvis elevated so as to cause the abdominal viscera to gravitate toward the diaphragm, is now ready for the operation. The surgeon stands on the left side of the patient and makes an incision three or four inches in length from below, beginning at the pubes and extending upward exactly in the median line of the body. The skin, fasciæ and cellular tissue having been divided, the linea alba is now exposed. The surgeon cuts along the raphe upon a grooved director between the pyramidales and recti muscles, dividing also the transversalis fasciæ. It sometimes happens that the pyramidalis muscle is exposed by cutting the sheath of the rectus instead of going exactly through the linea alba, and the operator must remember that there is no posterior sheath to the pyramidalis, but only the transversalis fascia. The fascia must now be carefully divided, and the surgeon next exposes a small space filled with fat and loose connective tissue. Before disturbing this tissue a retractor can be placed in the wound, and this retractor, which is made like an eye-speculum, holds the edges of the wound apart and enables the surgeon to command a good view of the parts and to work with greater facility. The use of the retractor suggested itself to me by its employment in the operation for tracheotomy, where I have found the eye-speculum of great help in holding open the wound while making the deep incisions in order to open the trachea.

The fingers of the surgeon should now be introduced into the wound where he can feel the distended bladder. The loose connective and fatty tissue overlying the bladder should be carefully separated with the handle of the scalpel, then the upper surface of the bladder is brought fully into view, with its veins and muscular fasciculi showing on the surface. The surgeon should carefully avoid tearing up the cellulo-adipose connective tissue between the pubes and the neck of the bladder, as this might afford an opportunity for urinary infiltration.

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The point of the silver catheter can be felt within the bladder upon its anterior wall, and this can be relied upon as a guide.

If any uncertainty exists as to whether the peritoneum is out of danger, the surgeon should examine to see if there are two sliding surfaces lying over the beak of the catheter, and if there is a distinct transverse raphe over the summit of the bladder. If only the wall of the bladder is present the surgeon can seize the viscus with two delicate tenacula, and having observed that all hemorrhage and oozing have ceased, open the bladder between the two tenacula and over the point of the catheter.

The walls of the bladder, especially the mucous membrane, are often very much hypertrophied, as a result of the irritation from the stone. The small opening in the bladder is now enlarged by a probe-pointed bistoury in the direction downward toward the symphysis pubis; but never below toward the neck of the bladder and urethra. This last incision would be fraught with great danger. If the object of the operation is the removal of a tumor requiring a free exposure of the interior of the bladder, a stitch is taken in the bladder wall on each side of the incision, and the wound held apart by the suture. The threads also prevent the dipping down of the bladder after the fluid has escaped. The index-finger, first dipped into a warm antiseptic solution, is now carried into the bladder and the stone felt, and with the assistance of the other index-finger carefully lifted out of the bladder. Instead of the fingers the lithotomy forceps can be employed. If the stone is very large, it can be crushed before removal. If there is any difficulty in seizing and removing the calculus, the rubber bag can be emptied and removed and the index-finger of the assistant introduced into the rectum and the stone pushed upward so that the surgeon can easily grasp it.

The bladder can now be thoroughly washed out and a soft, flexible rubber catheter introduced through the urethra for perineal drainage. The catheter must be removed in forty-eight hours, or its presence will excite a traumatic urethritis. This complication occurred in a case last winter, in which I left the catheter in the bladder too long. An interesting clinical fact in connection with this case was the certainty of the diagnosis as to the traumatic and not specific origin of the discharge. Dr. Seymour Houghton, House Surgeon in Bellevue Hospital, examined very carefully the pus in the Carnegie laboratory, under the microscope, for the presence of Neisser's gonococci; but the staining

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failed after many attempts to show the special germ of this disease. I have seen a boy of ten years and a girl of eight years and also a boy of six years, all affected with gonorrhœa. The first two patients denied any knowledge as to the origin of the trouble; but when the gonococci were found and they were directly charged with it, they confessed. This complication of a traumatic urethritis serves as an important lesson to remind the surgeon not to leave the catheter in over two days. The catheter in this case was left in four or six days, but was aseptically clean. It was a desire to incur no risks of infiltration on account of the unusual size of the wound in the bladder that induced me to allow the catheter to remain longer than it was necessary.

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The patient should lie with his shoulders elevated, or upon his side, and in this way better drainage is secured. Trendelenburg recommends the abdominal position for drainage after the operation. When this is practical it is a most excellent method to establish perfect drainage.

Another question in the technique of the operation is the management of the wound in the bladder. Here an honest diversity of opinion exists among surgeons, and it is an important point for discussion in connection with the high operation. From a careful research into the meagre literature of the suprapubic operation in its modified form, and also from a limited practical experience, I feel convinced that the bladder wound, in the majority of cases, should be left open. If the bladder in an adult is sewed, the wound is most likely to reopen on account of the pathological condition of the bladder wall and the mucous membrane. In chronic cystitis there is thickening of the bladder wall and alteration in the mucous membrane. A failure to secure primary union is quite likely, and if the wound reopens the dangers of infiltration of urine and septicæmia are greatly increased. In twenty-five cases collected by Schmitz, with a view to throwing light upon this point, six of the patients died, which gives a mortality of twenty-four per cent., and in only four cases did primary intention follow. If the wound in the bladder is stitched, a natural provision for drainage is sacrificed, and on account of the unhealthy condition of the mucous membrane from a chronic cystitis accompanied by thickening of the entire bladder wall the wound is not likely to heal by primary intention. The wound opens and sloughs occur, and the result is extremely unsatisfactory.

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While condemning the practice of suturing the bladder wound after removal of a calculus, the same plan is not to be followed in certain other conditions. In rupture of the bladder, for example, the wound should be sewed, but here the conditions of the mucous membrane and the walls of the bladder are altogether different. Primary intention is more likely to be secured in such a case where it would be useless to try under other conditions. If the bladder wound, after a high operation for stone, is left open to heal by granulation, it will permit the surgeon to treat intelligently a chronic cystitis. The wound in the skin can be partially closed and a large rubber drainage-tube introduced into the bladder. After a few days the urine will pass the natural way and any little overflow is cared for by the upper drainage-tube.

In young children, where suturing the bladder is likely to be followed by primary intention, the difficulties of the operation are very great on account of the extreme thinness of the bladder wall and the small abdominal wound. An attempt to close the vesical wound, therefore, prolongs the operation unnecessarily, and should not be attempted unless the bladder is fairly healthy and the patient is in good bodily condition at the time of the operation. Lembert's sutures, in close apposition, should be employed and the mucous coat must not be included. The bladder must be carefully manipulated during the sewing so as to prevent a cellulitis. After the wound is stitched an injection of an antiseptic fluid should be carefully made into the bladder to ascertain if there is any leakage. If the bladder is properly sewed no permanent drainage is indicated, but the soft catheter can be passed several times during the first twenty-four hours after the operation, and occasionally after the first day, so as to prevent any distention. The wound heals by primary intention, and this occupies only a short time.

The abdominal wound is also closed and a small drainage-tube is inserted into the lower angle of the wound. Von Bergmann sutures the bladder and packs the abdominal wound with iodoform gauze for forty-eight hours, and thus prevents suppuration. He then closes the abdominal wound in two days after removing the gauze. Schmitz (Langenbeck's *Archiv*, Vol. XXXIII, 1886) reports thirty cases of nearly seven per cent. In the thirty cases of suture about half of these cases resulted in primary union of the wound. If

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children and adult cases are grouped, it is estimated that in two-thirds of the cases the bladder wound reopens.

A few days after the operation the patient can sit up in bed, and an uninterrupted and speedy recovery should take place. Prof. Annandale recommends the introduction of a lithotrite into the bladder in order to seize the stone, and then to cut upon the lithotrite as a guide and remove the stone. A rubber catheter is introduced into the blades of the lithotrite through the abdominal wound and the instrument withdrawn with the rubber catheter. The drainage through the perineum and also in the wound above is the same as in the method already described.

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In conclusion, it may be said that suprapubic cystotomy, in its present form, presents to the practical surgeon a safe, reliable and radical operation. It should be remembered, however, that the newly modified suprapubic operation has not been sufficiently submitted to the crucial test of time and experience to enable surgeons to estimate accurately its value under all conditions. Hence the great danger of generalisation at present. Enough has been done already to convince the most incredulous that in the removal of large stones and in tumors of the bladder there is no question as to the superiority of the suprapubic operation.

The revival of this high operation and its application in cases of traumatism of the bladder, have shown that surgical intervention can save human life where, but a few years ago, these cases were considered fatal. No one can dispute that the two recent cases of Sir William MacCormac bear brilliant testimony to this statement.

Finally, the rate of mortality by the suprapubic operation of about nine per cent. is high for a surgical operation, but a low rate of mortality for an operation performed under the conditions in which this method has been employed. In considering this mortality two facts must be remembered :

First. The causes of death in the majority of the cases are due to septic infection, and not to the immediate effects of the operation itself. The employment of more rigid antisepsis for the bladder should improve this rate of mortality. At the present time there is no ideal antiseptic especially and peculiarly adapted to vesical surgery. The attention of the Association should be directed to this important point.

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Second. The largest and hardest stones have been reserved for the high operation. The patients have been, as a rule, in poor physical condition. Improvements in the details of bladder antisepsis and extension of the limits of the high operation to include stones of smaller size, but not to embrace those suitable for lotholapaxy, and an earlier period of operation, before patients are exhausted from chronic vesical irritation, will reduce the rate of mortality so as to compare favorably with any other cutting operation for stone.—*Medical News.*

ERGOTINE IN INTERMITTENT FEVER.

Dr. S. L. Savitski, writing in the *Vrach* on the value of ergotine in the treatment of intermittent fever, remarks that the drug has been used with success in the treatment of many affections, e. g., by Vidal in prolapsus recti, by Hunt and Pepper in diabetes, by Saunders, Murrell and Noakes in diabetes insipidus, by Allan for the cough in some lung-affections, by Granzio in obstinate constipation, by Gauldmel in the night-sweats of phthisis, by De Martini in spermatorrhœa, by Demange in some forms of typhoid fever, and by Girma in general paralysis. It has been also employed in chorea and in dysentery. The theory of its action in these diseases he does not pretend to expound, but he calls attention to the similarity of the action of quinine and ergotine. Both, he says, undoubtedly cause contraction of the uterus and the spleen, the effect of quinine on the uterus having been scientifically worked out in a dissertation published by T. T. Smolski in 1876, and that of ergotine on the spleen having been shown by Dobodchiki (*Vrach*, 1880) and by Semchenko (*Vrach*, 1883). This similarity led him to think that one of these drugs might serve as a substitute for the other, and he therefore made a large number of observations on the effect of ergotine upon the cases of intermittent fever occurring in the Lubinski regiment with excellent results, especially where an enlarged and tender spleen was present. He finds that a combination of ergotine with quinine acts very satisfactorily, and that in this way considerable quantities of quinine can be saved, as half the dose of quinine which would be required if given alone will suffice if combined with ergotine. The preparation of ergotine was Bonjean's, the dose in chronic cases being about a grain three times a day.—*Lancet.*

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

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MALARIAL HÆMATURIA.

We have not had an opportunity to read the essay by Dr. J. M. Baker, of Tarborough on this subject, which won the Pittman prize this year, but we are convinced that it contains valuable work and will contribute largely to the solution of the vexed questions involved in the study of this disease. We have noticed that the outbreaks of this form of malarial poison do not always occur at points where other forms of the disease are commonly prevalent. For instance, in the town of Smithville (now called Southport, to please some æsthetic iconoclasts) in 1865–'66 there was almost an epidemic of

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this malarial fever. It had not been known before, and has not reappeared. There was not, as far as an observing physician of the place informs us, any increase of remittent or intermittent fevers, and as well as he recollected these fevers were in partial abeyance. The seasonal changes, an excess of rainfall, with alternating dry and hot spells did not prevail, which usually give origin to malarial outbreaks. Neither did such continuous winds prevail as could account for the presence of this infective material in the atmosphere, being brought in from any neighboring swamps or bogs. So, too, in Wilmington, it is a commonly known fact that the exhibition of this poison has occurred in localities not generally considered unhealthy, and, as far as we know, the sufferers were not unusually exposed to malarial infection. Among those who died of the fever several years ago in this town were more negroes than whites. We have reason to know that among the hands employed on rice plantations about here but few have suffered with this malady. These facts all point to a peculiar element in this manifestation of malaria, differing in some way yet unknown from the ordinary outbreaks of chill and fever and even the more pernicious forms of remittent fever, called congestive fever.

The symptoms attending the cause of attack very often closely resemble those belonging to the intermittents, the attacks beginning with a chill, running a definite course of fever, with subsidence of fever marked by a disappearance of the peculiar characteristic of the disease, that is, the dark, bloody urine, and a reappearance of the hæmaturia is ushered in again with a chill and the same train of symptoms as above. So far as our observations have gone, there never has been any unchanged blood in the urine, and we have seen the urine in a very short time after it was passed. There was always a dark deposit, bromaist, with small black particles in it. There never was a clot present in the specimens we saw, nor did one ever form in them, though reliable physicians report these coagula as appearing now and then. The microscope has never shown us any blood-corpuscles in our work, and the only show of blood has been the granular débris of hæmalobiliar, epithelial scales, renal casts, mixed with certain other deposits of the urine. The brunt of the attack has seemed to us to be put upon the liver, and the kidneys have suffered afterwards because of the failure of the liver to prepare the excrementitious receptacles for their work. The icteroid

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here that attends these attacks are rather more like the fading yellow of blood extravasations under the skin, and bear some of the colors of hæmoglobin. As the liver is normally engaged in the separation of some of the elements of danger from the blood that passes with it from the portal system, and in this cleansing process, along with it, destroys a certain quantity of red blood-corpuscles and the fibrin to the same extent, freeing so much of the hæmoglobin as may be needed to make up its own coloring matters, may not the presence of the peculiar poison of malaria, be it microbe or ferment, in the circulation, exaggerate this work and overload not only this organ, but all the emunctories directly or indirectly connected with it? There are two clinical facts in the treatment that are not yet other than empirical—that quinine and some form of the cathartic mercurials will best serve the therapeutic indications, and that astringents or hæmostatics do not affect the appearance of the urine in the quantity of bloody-looking deposit in it.

The findings of Laveran, as set forth by Sternberg, and the subsequent verification of Laveran's statements by Sternberg's experiments, seem to us to be a far better explanation of the action of the malarial poison by the presence of germs than the theories of Klebs and his disciples. The microbes of Laveran were not only present in the moving circulation, but they actually infested the red corpuscles and apparently entered the cell walls, destroying or affecting the integrity of these bodies. Moreover, culture fluids containing these microbes under the influence of quinine were sterilized, and the quantities necessary to effect this were such as to indicate that in seeking to accomplish the cure of malarial disease, these microbes being the cause, that the antiperiodic doses of the cinchona alkaloids must be such as would agree with the quantities given to destroy the germ in the cultures, whereas the opposite condition obtains with the bacillus malariæ of Klebs and Tommasi-Crudelli. The microbe of Laveran, invading and probably destroying the red corpuscles, may afford some explanation of the anæmia that attends malarial fevers, and probably likewise explain some of the peculiar and distressing symptoms of hæmorrhagic malarial fever. We are pleased to know that such earnest work is being done among our members to solve the mysteries that surround this much dreaded disease, and shall read Dr. Baker's essay with interest and profit.

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RESULT OF THE STATE EXAMINATIONS FOR LICENSE IN 1887.

College.	Total Applied.	Passed.			Withdrew or Rejected.			
		Graduate	1 Course.	Total.	Graduate	1 Course.	2 Courses.	Total.
No College	1	.....	.....	.....	.....	.....	.....	1
University of Maryland	13	9	1	10	1	1	1	3
Louisville Medical College	2	1	.....	1	1	.....	.....	1
Jefferson Medical College	6	6	.....	6	.....	.....	.....	.....
L. I. Hospital College	1	1	.....	1	.....	.....	.....	.....
Bellevue Medical College	4	2	.....	2	1	.....	1	2
University of New York	7	7	.....	7	.....	.....	.....	.....
College of P. & S., Baltimore	6	4	.....	4	2	.....	.....	2
Vanderbilt University	4	1	.....	1	2	2	.....	3
Atlanta Medical College	2	2	.....	2	.....	.....	.....	.....
Baltimore Medical College	1	.....	.....	.....	1	.....	.....	1
Uni. of Va. and Va. Med. Col.	1	.....	.....	.....	.....	.....	1	1
Total	48	33	1	34	8	3	3	14

We give above an analysis of the work done by the Board of Medical Examiners at their last annual meeting in Charlotte in April.

The Board is authorized to examine all candidates applying, regardless of diplomas, so that we give in the table the results as they are, calling attention to this fact, that, while we give the names of colleges in cases where first course and second course (but rejected) students were rejected, it is plain that in such cases the good name of the college is in no way stigmatized. Three of the rejected candidates, it appears, were rejected second course students from three different colleges.

The Board, with very many less candidates than at the Durham meeting, in 1885, were severely burdened with these forty-eight candidates, because of the thoroughness of their work and the necessary elevation of the standard which they aim at every year. We commend the diligence of the Board and the fairness of the examinations, and beg leave to assure them that their progressive elevation of the standard for the minimum candidates is highly to be commended, and is entirely in accord with the opinion of the best element of the profession. As conservatism and justice have marked the career of the present Board—not applying the ju[illegible]t law

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entrusted to them with too great rigor, but tempering it with that discretion which could only be dictated by thorough knowledge of the difficulties which attend the medical education of our young men—so it will in the future; but we are sure that they can perpetuate this honorable record, and at the same time lessen the distance in a very considerable degree between the maximum and minimum standards, and this they are doing.

It is easy enough to read the signs of the times as to the public opinion on this subject, for it is undoubted that the people are in hearty accord with the law, and themselves demand a higher standard.

What must come next is to reënforce the law so as to make it apply to the travelling M.D's—medical sharks—who, holding the diploma of a *regular* medical college, are disgracing the profession by "lying wonders," while at the same time complying with the letter of the law as it now stands.

His Excellency, Gov. Scales, has appointed Prof. W. G. Simmons, of Wake Forest College; Mr. Arthur Winslow, C. E., of Raleigh, and Dr. J. H. Tucker, of Henderson, as members of the State Board of Health. The first two of these gentlemen have already served a term on the Board and been most efficient members. Prof. Simmons has served as the meteorologist of the Board, and has likewise contributed a most valuable paper upon illuminating oils. Mr. Winslow's studies of water supplies and the direction for the best method of securing and maintaining good water, as well as his services in the selection of the water supply of Raleigh, have made him a most valuable member of this department. Dr. Tucker has the confidence of those of the profession who have the pleasure of his acquaintance, and has held for some years the esteem of the State Society. His entrance into the sanitary department of the State ensures an honest and intelligent worker, and we congratulate the Governor upon his admirable choice.

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REVIEWS AND BOOK NOTICES.

NERVOUS DISEASES AND THEIR DIAGNOSIS: A Treatise upon the Phenomena Produced by Diseases of the Nervous System, with Especial Reference to the Recognition of their Causes. By H. C. WOOD, M.D., LL.D., Member of the National Academy of Science. Philadelphia: J. B. Lippincott & Co. 1887.

The works on diseases of the nervous system during the short period which has elapsed since the war, have increased until there are now several good text-books, but none of them have been written especially from the clinical standpoint. The merit of this volume appears to us to be chiefly that it was constructed with the design of giving to the practitioner who is not a specialist the result of long observation at the bedside of diseases of the nervous system. As the author declares in his introduction, hitherto authors of text-books have travelled from the lesions to the symptoms; the present treatise is an attempt to follow the road which the practitioner must pass over largely, that is, from the symptoms to the lesions. In this introduction great pains is taken to show that neurasthenia is not a disease, but a bodily condition which is frequently associated with various chronic disorders, and not rarely coexists with perverted functional activity of the nervous centres, which perverted nerve functions may, however, exist independently of any perceptible neurasthenia, and are not simply outcomes of neurasthenia. It is an habitual foundation for hysteria, chorea, insanity and various nervous diseases, but may exist without the superaddition of any of them.

The first chapter begins with paralysis, and the first diagnostic division is the difference between true, organic palsy and that which is assumed, hysterical or reflex in its nature. Clinical pictures are drawn of each one of many forms of paralysis, the chapter concluding with local paralyses. The second chapter, under the head of motor excitements, discusses convulsions, choreic movements, tremors and automatic movements, to which, for convenience, the author has added a description of contractures. The third chapter is devoted to reflexes, that is to say, certain movements or torsions of the body which are directly produced by external irritations,

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which the author has divided into two varieties, the superficial and deep—those movements which are produced by irritation of the deeper tissues. The disturbances of equalibration is the subject of the fourth chapter and includes disturbances of coördination, cerebellar titubations, or lesions affecting the middle lobe of the cerebellum, causing peculiar disturbances of the mind, and finally vertigo. The different qualities of vertigo which are enumerated under the heads of organic, cardiac, epileptic, hysterical, peripheral, vertigo of the special senses, toxæmic vertigo, and finally, causes which at present have no explanation. This chapter is very instructive and will be found useful to all who consult it.

Trophic lesions, sensory paralysis, exaltations of sensibility, disturbances of the special senses, hearing, sight, taste and smell, disorders of the memory and consciousness, and the disturbances of intellection conclude the last chapters of the book.

The arrangement of the volume is not calculated to entice one to read it superficially, neither is it well adapted for hasty consultation; but it is very evident that this volume, if carefully studied, will be a favorite with those general practitioners who are obliged to rely upon themselves in these studies, as in all others, and will doubtless give renewed interest to the study of nervous diseases which heretofore have been difficult and obscure.

THE LOMB PRIZE ESSAYS.

It is well known that several years ago Mr. Henry Lomb, the famed microscope-maker of Rochester, N. Y., offered through the American Public Health Association valuable prizes for the best essays on hygienic subjects, and the volume before us contains in full the four essays for which prizes have already been awarded. The subjects of these essays are, 1st. "Healthy Homes and Food for the Working Classes," by Victor C. Vaughn, M.D., Ph.D., University of Michigan; 2d. "The Sanitary Conditions and Necessities of School-houses and School Life," by D. F. Lincoln, M.D., Boston, Mass.; 3d. "Disinfection and Individual Prophylaxis Against Infectious Diseases," by George M. Sternberg, M.D., U. S. A.; and 4th. "Preventable Causes of Disease, Injury and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them," by George H. Ireland, Springfield, Mass.

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These books are published for distribution among all classes of people, and are especially designed, according to the wishes of Mr. Lomb, the benefactor, to aid people of limited means, generally spoken of as the working classes, to make their homes more healthy, to teach them which foods are healthy, to teach them to avoid all causes of disease, to teach the principles of hygiene in schools, to teach the simplest methods of disinfection and care for the prevention of infectious diseases, and many other topics of practical use in every-day life to every citizen, rich or poor. These essays have now reached a second edition, and are offered to the public at a small nominal price, bound or unbound. The unbound pamphlets are issued either collectively or each one separately, and can be had for distribution at a very small cost, and, in fact, the Secretary of the Association, Dr. Irving A. Watson, Concord N. H., is authorized to present a copy of either of these essays, or all of them, to any one who will promise to read them. The American Public Health Association has worked as a rather close scientific body, and of necessity, for all these years of its useful existence, but the work accomplished has been of the most substantial sort. Evidence of this is that they have been made the medium through which such a great benefaction has been bestowed, and we trust that it will be the recipient of the benefaction of many other such generous men as Mr. Lomb in the future.

PRINCIPLES OF HYGIENE FOR THE SCHOOL AND THE HOME, together with so much of Anatomy and Phgsiology as is Necessary to the Correct Teaching of the Subject. By EZRA M. HUNT, A.M., M.D. Sc. D. Pp. 382. Ivision, Blakeman, Taylor & Co., New York and Chicago.

Sometime ago we had occasion to point out what a text-book on hygiene should not be; we have found, at last, what a school text-book of hygiene should be.

Its author, Dr. Hunt, has been for many years a teacher and a student in the most eminent sense, of hygienic subjects. He is now, and has been for years, Secretary of the New Jersey Board of Health, directing and compiling the vital statistics of that State, and has taught the principles of hygiene in the New Jersey Normal School.

Dr. Hunt's plan is an original one, and his design is well conceived.

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After a general introduction to the study of hygienics, he considers the earth as related to human health, water in its relation to health, and air, light, sun-heat and climate in the same relation. This is followed by short lessons in the anatomy of the human frame as related to the hygienic care of the body. A more particular account is given of the muscles, in order to inculcate the principles of healthful exercise. "The skin, its functions and its care," is dwelt upon with due emphasis, bathing and baths getting a proper share of consideration. This chapter is followed by one on *clothing* and our habitations, which includes special advice about the protection of the most vulnerable parts of the body, and all is told with wisdom and good sense. The next three chapters describe the physiology of circulation, respiration and digestion, and this naturally leads on to the consideration of foods and stimulants. The amount of genuine information in this section of the book is admirable, and if mastered by teachers and scholars it would be an almost complete guide to healthful eating and drinking. The chapter on the effects of stimulants is told with candor by a physician of practical, and a hygienist of ripe wisdom, and is entirely free from the florid, overstated matter we have had occasion before to condemn.

The great question, the perplexing question of teachers and patrons of schools—*heating and ventilation*—is here set forth in plain, practical principles, which every teacher and parent would do well to master, and this is followed by special consideration of "*the school and its appointments*, and the disposal of refuse.

The work is brought to a close by the consideration of the nervous system and its relation to health, the senses in general, and all concluded by a special chapter on vision.

We have given a hurried review of the contents of this excellent volume, and only wish it could be adopted in our schools for children of all grades. This would be impossible, but for the scholars of the higher classes it might well be adopted as an essential text-book. We would suggest, indeed urge it, if we thought it would have the desired influence, that all teachers in our public school organization should be required to master this volume, and give at least once a week lectures to all classes in the general assembly room of the school on hygiene as here taught. Furthermore, it would be well if all school boards would master the teachings of this volume, and strive for the steady improvement of the school rooms under their

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direction. Much cheap and superfiicial instruction is indulged in on the subject of hygiene, but what the public needs is instruction given from the well-furnished brains of teachers who understand the subject they teach, and are heartily impressed with its importance. Many teachers will be disappointed that Dr. Hunt's volume is so large, but a more condensed statement of his subject would have sacrificed much that is of real value, and the conscientious teacher will find he cannot do with less.

The mechanical execution of the volume is very good, including the illustrations.

MEDICAL AND SURGICAL MEMOIRS, 1855 to 1886. Vol. II. Containing Researches on the Origin and Effects of Endemic, Epidemic, Contagious and Infectious Diseases, etc., etc. By JOSEPH JONES, M.D., Professor of Chemistry and Clinical Medicine, Medical Department Tulane University of Louisiana, etc., etc. Published by the Author. New Orleans, La. 1887. Pp. 1,348.

The students of medicine during the last quarter of a century in this country have known the author of these Memoirs as a laborious worker and intelligent observer of disease. His whole professional career has been marked by his active pursuit of the cause of malarial diseases, as they presented themselves in manifold ways in this Southern country. As an authority on these diseases Dr. Jones has been therefore long esteemed, and we regret that ill-health and the difficulties attending the issue of the book has so long retarded the publication of his life's best work. There is contained in it a very great deal of clinical material that is in no wise connected with the important topic which gives the value to this work—which is devoted to a careful consideration of the endemic fevers of tropical and temperate climates, that is, the different forms of malarial fever. We say that the introduction of these clinical and experimental studies are to be regretted, because, as the author has endeavored to write a full history of most of the diseases which he brings before his readers, the volume is extended beyond its legitimate bounds, and the reader finds himself drawn away from the author's thoughts on malarial diseases by the interpolation of histories of diseases remotely, if at all, germane to these subjects.

The elaboration of physiological facts might have been left out of a volume of this character, as, for instance, the extensive

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treatise on the blood of man and animals which introduces his opening chapter on malarial fevers. Following this is a comparison of the pathological condition of the blood in diseases other than malarial, as diabetes mellitus, and into this chapter Dr. Jones has introduced a study of diabetes and its treatment with a great deal of anatomical and physiological matter that is unnecessary. Dr. Jones is an ardent disciple of the germ theory of diseases, and in approaching the determination of the germal origin of malarial diseases, he has gone over the whole field of micro-organisms. And in this connection we may illustrate our idea of the uselessness of the introduction of subjects which are so irrelevant. After beginning a recital of his studies in the separation and classification of the micro-organisms of malarial disorders, he introduces a long history of a criminal trial, in which he as an expert determined the presence of human blood from a person infected with malarial poison. The trial is set forth with elaborate preamble and details, all of the official red tape attached to his summons as a witness being printed in full. There is a consolation to the author, no doubt, in having so scientifically aided the authorities, in the fact that the jury gave a verdict for the State, and the proof or evidence upon which it rested seemed chiefly the testimony of the expert.

But let us turn to the portion of the book that is of great value. Following the teachings of the bacteriologists and the results of his own work, the author unhesitatingly declares that there is a specific set of germs that attend the paroxysms of malarial fever. There are indisputable proofs to his mind, and we feel that he is largely correct, that there are more than one form of micro-organisms engaged in the production of the varieties of malarial exhibitions. His attention is first directed to the destruction of red blood-corpuscles in these diseases, and he declares, what is well-known, that few affections, if any, we may add, produce such rapid and complete spanæmia as paludal fevers, and this destruction of red blood-corpuscles is attended with the deposit of a pigment in nearly every portion of the economy, and this latter feature is as constant as the former. This pigment is hematin escaped from the red corpuscles, and its presence in the bile of malaria is set forth to account for the dark hue of this fluid. To the same cause he attributes the black urine of malarial hæmaturia. He sums up his conclusions, which we briefly state as follows: Destruction of the colored corpuscles is

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the constant concomitant of malarial poisoning. This destruction takes place in the liver, spleen and medulla of the bones, and is due to the action of a ferment or micro-organism, and the action of this morbific element is characteristic of malarial hæmaturia as well as other forms of malarial fever. The jaundice of malarial hæmaturia is due to the coloring matter of the bile, and the deeper hue is due to the presence of the pigment in the capillaries of the skin. There is no transudation of this pigment into the tissues. The loss of blood from the kidneys in malarial hæmaturia is a true hæmorrhage, the result of a congestion and rupture of the Malpighian capillaries, the changed condition of the blood as seen in the urine being the effect of the urinary saline constituents, the presence of bile and the escaping coloring matter of the blood from the tubuli uriniferi, dissolved out by the urine.

The two next chapters are devoted to a study of the other forms of malarial fevers, and are very elaborate, though we have to contend with the frequent introduction of subjects remotely connected with the main topic, and which do not add clearness to the full text. The chapter on treatment contains a list of the indigenous remedies that have been used to prevent or relieve malarial fevers. As a historical matter this may be valuable, but we are not aware that any treatment, save the administration of the alkaloids of cinchona, has ever stood the test of continued trial, aided by judicious use of the mercurial cathartic and arsenic. We have alluded to the blemishes in this volume, and they are the more apparent because they mar a work that is so valuable. We congratulate the author on the issue of his second volume, and hope that he will receive such recognition as will encourage him to bring his experiments up to date.

AGARICUS ABUS has been successfully used by Dr. A. Peter (*Medical News*) for relieving the sweating of consumptives. Ten grammes at bed-time had a cathartic effect; but given in 5-gramme doses no such effect was observed, and in about a week all sweating ceased. When a return of the night-sweats is threatened relief is again afforded by the remedy, which has no effect upon the cough.—*Analyst.*

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ORGANIZATION OF COUNTY MEDICAL SOCIETIES.

ALAMANCE has organized a County Medical Society, with Dr. J. B. Gunter for President, Dr. E. C. Laird Vice-President, and Dr. R. A. Furman Secretary and Treasurer. A Board of Health was also organized, with Dr. George W. Long, of Graham, as Superintendent of Health.

BERTIE.—At a preliminary meeting of the physicians of Bertie county to organize a County Medical Society the following were present: Drs. P. C. Jenkins, J. S. Griffin, E. W. Pugh, W. S. Gurley, B. W. Hathaway and H. V. Dunstan.

Dr. Charles Smallwood, of Lewiston, though absent, the oldest practicing physician in the county, was elected permanent President; Dr. P. C. Jenkins, of Roxabel, was elected permanent Vice-President, and Dr. W. S. Gurley, of Windsor, Secretary and Treasurer.

The following were appointed to act as Executive Committee for the balance of the year: Drs. W. B. Watford, of Coleraine; E. W. Pugh, of Windsor, and B. W. Hathaway, of Merry Hill.

On motion, it was declared that the meetings of the Society should take place in the town of Windsor on the first Monday in January, May and September, at 11 A. M.

A motion was made and passed that the Convention send a copy of the proceedings of this meeting to all physicians in the county entitled to membership, with a request that they unite with the body in its efforts towards a more perfect organization.

It was ordered that the Secretary send the records of the meeting and a copy of the By-Laws to the Secretary of the State Society, and the minutes of the meeting to the NORTH CAROLINA MEDICAL JOURNAL and *Windsor Public Ledger*, with a request that they publish the same.

After a resolution in regard to the indiscriminate and illegal selling of poisonous medicines by country dealers and others, the Society adjourned to meet again on the first Monday in September, 1887, unless legally called before that time by the Executive Committee.

E. W. PUGH, President Pro. Tem.

W. S. GURLEY, Secretary.

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NOTES.

ARSENICAL ERUPTIONS.—Dr. P. A. Moroon (*La France Médicale*) has observed the following variety of cutaneous eruptions from the use of arsenic: Erythema, papules, urticaria, vesicles, pustules, ulceration, skin bronzing. In each case the discontinuance of the drug caused the disappearance of the rash.—*London Medical Press.*

HOW TO REMOVE A LEECH.—Oliphant relates in his "Haifa, or Life in Modern Palestine," that it is not uncommon for leeches, which abound in some of the springs, to attach themselves to the throat, causing much trouble. He relates one case of a Druse Sheïk who had one attached to his throat (œsophagus) so far down that it could not be reached by ordinary means. Salt and all ordinary things were tried without success. Procuring some of the leeches from a spring, experiment showed that turpentine [oil] in large quantities was the remedy.

STRICTURE OF THE ŒSOPHAGUS DILATED BY A PIECE OF DRIED PEACH.—Dr. F. C. Smith, of Aurora, Ind., reports in the *American Lancet* (June) of a stricture of the œsophagus caused by drinking concentrated lye. All fluids swallowed were at first regurgitated, requiring the child to be nourished by the rectum. Before the doctor was called in a visitor gave the patient a piece of dried peach. This he ate greedily. Suddenly, on the fifth day, he was abruptly relieved, which the doctor attributes to the dilatation of the œsophagus by the dried peach.

LANOLIN; SUINT; ŒSYPUM; WOOL-FAT.—The first name, lanolin, given by O. Liebreich, the second, suint, the old name used by the French for the crude substance—the refuse of factory washing—the third, œsypum, used by the Greeks for the fat of raw wool, and fully described in Diascoride's Materia Medica, Lib. II., Chap. 61 (N. Wulfsberg, M.D., Christiania, in *British Medical Journal*, May 21, 1887), shows how difficult it is to find anything "new under the sun." This substance is passing through a stage of probation, and at present largely monopolized by speculating manufacturing chemists. It will ere long reach a stage which will favor its application by the profession at large.

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MICRO-ORGANISMS IN THE BLOOD OF CATTLE DEAD WITH MALARIAL HÆMATURIA.—In an article in the *New York Medical Journal*, April 16, 1887, reviewing an account of an epidemic of malarial hæmaturia among cattle in a malarial district of Roumania, examination of the blood revealed no micro-organisms with a power of 450 diameters, "and without staining methods being used." The *New York Medical Journal* does not draw an analogy between the disease as seen in man and cattle, but the study of the comparative pathology may be worth the whole time of those gentlemen who are re-investigating this dread malady.

ANTIDOTE FOR CICUTA MACULATA.—Mr. J. E. Whiteside reports in the May *Botanical Gazette* the case of a person who by mistake chewed and swallowed the juice of more than two ounces of a fresh root of cicuta maculata (Hemlock). The cause of serious symptoms being suspected, gave freely of warm decoction of eupatorium perfoliatum (Thoroughwort). Vomiting and sweating followed, and in an hour dangerous symptoms disappeared. It appears that two hours elapsed from the time of eating the root until the remedy was applied. There is no known antidotal power in eupatorium perfoliatum, but the success of this case should be remembered and acted upon in an emergency.

PSOAS ABSCESS.—Edmund Owen, M.B., F.R.C.S., in the *British Medical Journal*, April 23, gives some practical ideas about the treatment of *psoas abscess* which he concludes as follows: It is unpractical to look forward to the spontaneous absorption of a psoas abscess; sooner or later it must be evacuated by nature or art. In this matter art has the advantage, as by her aid the cavity can be at once emptied, cleansed and drained. The earlier the abscess is opened the better; for delay may entail the extravasation of pus and the formation of a needlessly large and intractable cavity. The abscess should be opened and irrigated from the front and drained through a counter opening in the loin. Washings and drainage should be thorough; for a small abscess the single opening in the back may suffice. Warm iodine-water [decolorised] is the most suitable fluid for irrigation; the sublimate solution [1 in 1000] is dangerous, at any rate, in a large or double psoas abscess in childhood. The most convenient dressings are bulky pads of wood-wool and gauze bags of finely-picked oakum;

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they should be fixed under a towel tightly pinned as a binder. Pus may rapidly collect on the opposite side of the spine after a single abscess on the one side has been evacuated; therefore if the temperature rise and remain high after the evacuation of a unilateral abscess, the formation of a second abscess should be watched for, and it should be opened as soon as it is detected; thus convalescence may be at once established. Bilateral abscesses should be attacked simultaneously; they are likely to be in intercommunication, and the area of suppuration cannot be kept aseptic unless both sides are washed and drained.

DETECTION OF CERTAIN MEDICINES IN THE URINE.—*Iodide of Potassium.*—Mix the urine with a few drops of fuming nitric acid and about one-fourth the volume of chloroform, and shake. After settling the chloroform will show a reddish-violet tint.

Bromide of Potassium.—Add to the urine *fresh* chlorine water and chloroform, and shake; if bromine be present the chloroform will give a yellow color. Bromine is detected only when in large quantities, and the chlorine water must be fresh.

Salicylic Acid.—On adding ferric chloride to urine it will assume a bluish-violet color. If the quantity of urine is large evaporate it, or extract the salicylic acid by shaking with a volume of ether equal to the urine, and applying the test to the ether. The urine in this case should be acidulated with sulphuric acid.

Antipyrin.—Antipyrin colors the urine yellowish-red or blood-red. It is easy to confound it with urine containing blood, since either of these colored urines is red by transparent and greenish by reflected light. After the addition of a few drops of ferric chloride the color of the urine, which is reddish-yellow in thin layers, is converted into a handsome red.

Chrysophanic Acid (from Rhubarb or Senna).—On adding solution of potassa to urine voided after the use of rhubarb or senna—the urine in this case is naturally of an intensely yellow or greenish-yellow tint—it acquires a yellowish-red to red tint. The reaction is more distinct when the urine is shaken in a test-tube, and the potassa added to the ether, the latter assumes a red color at the line of contact.

Santonin gives a yell w or greenish and caustic potassa gives a red reaction. The red reaction is red as for chrysophanic acid, but can be distinguished by the fact that santonine-stained urine does not yield its coloring principle to ether, as in the case of the former.—*Abstract from the American Druggist.*

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CALOMEL.

Soon, physic's Samson—thing to dread—
Bold Calomel uprears his head,
And, like wild beast in crowded cage,
He kindles with hepatic rage.
Quick as the supple leopard springs,
On threatening foes himself he flings.
With zeal and might in overplus,
Adown the dark œsophagus
He boldly leaps, prepared to win—
No gastric villus troubles him.
This noble drug, whom men deride
By calling him the Mild Chloride,
At once, indifferent to fate,
Swift rushes through pyloric gate;
By hope inspired disease to catch,
He searches well each Peyer's patch;
Along jejunal paths he speeds,
Nor puny cœcal portal heeds,
Till through the sigmoid curve he pops
Victorious and free,
Because he must, for don't you see—
Colons are not full stops.

But vain the task for me to tell
How much hath wrought great Calomel.
E'en had I speech like those of old,
That dwell on slopes of Helicon,
Ere all this Samson's deeds I'd told,
The moon would her full circuit run.
'Tis true at times he salivates
Opposing foes, and "alterates"
The blood from brain to mesentery;
But what he does, like servant true,
He does until the task is through—
Go ask the cemetery.

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READING NOTICES.

A PERFECT LIQUID CATHARTIC.—I can truly say that I have frequently used "Elixir Purgans (Lilly)" with great satisfaction in cases of obstinate Constipation, and can cheerfully recommend the use of this preparation to other practitioners of medicine.

W. H. MAY, M.D., No. 20 W. Twenty-Fourth Street, New York City, March 23d, says: "I have had very successful results in the administration of BROMIDIA in cases having their origin in disorders of the nervous system, such as cholera infantum, paralysis, insomnia, etc. *But I find it to be of special value in treatment of delirium tremens and the results of debauch;* it being retained upon the stomach and speedily controlling the most dangerous symptoms, and producing the desired calmness and sleep necessary when morphia and other soporifics have failed to do so, and thus rendering the disorder amenable to further treatment. Have also prescribed it successfully in the terrible state of nervous exhaustion due to opium habitués endeavoring to relinquish the habit. And, finally, as result of experience, I pronounce it the 'Hypnotic *par excellence.*'"

FROM an article on the feeding of infants deprived of the breast milk, by J. Lewis Smith, Clinical Professor of Diseases of Children, Bellevue Hospital Medical College: "No physician should recommend a food as he would not a medicine, without knowing its composition, and the composition of most of the recent dietetic preparations, ending with Carnrick's, has been announced. Carnrick's food contains a large percentage of the solid constituents of milk, the casein of which has been partially digested so as to resemble the casein of human milk in its behavior under the digestive ferment. The other ingredient is stated to be wheat flour subjected to prolonged baking, so that its starch is to a considerable extent converted into dextrine. This food has the advantage of easy preparation in the nursery, and easy digestion. Used alone, it is sufficiently nutritious for the infant. It will probably supersede some of the older foods of the shops. Poor families who cannot afford to use it as the sole food, will, according to my observation, find it useful made into a thin gruel and employed in diluting the cow's milk with which these infants are fed."

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NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

Number 1. Wilmington, July, 1887. Vol. 20

ORIGINAL COMMUNICATIONS.

HEPATIC STIMULANTS AND CHOLAGOGUES.

The Annual Essay, by Geo. Gillett Thomas, M. D., of Wilmington, N. C.

[Read before the North Carolina Medical Society, April 14, 1887.]

Mr. President and Gentlemen:

Before offering you the results of my work to comply with the demand which your choice has laid upon me, let me thank you for your kindness in bestowing the compliment, and while I claim but little originality in the thoughts with which I shall occupy your time for a short space, let me beg your attention to a review of some of the authorities upon the drugs which have been classed as Hepatic Stimulants. The position of the liver in the body, its size, and its peculiarly important role in the general action to the physical economy, have made it always an interesting subject of study of the physiologist seeking to set out in full its normal action and relations, and to the pathologist and physician, when searching into the mysteries of its diseased state. In all the ages of medicine it has been burdened with the blame of more or less of the ills that have marked the course of disease, and opinions as to its functions have changed back and forth with the

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growth of knowledge and the progress of experiment. Galen, says Murchison, taught that it was the center of animal heat, the point of the manufacture of the blood, the starting point of venous system, and "was, in fact, the central organ of vegetative life." Such was the opinion, more or less changed, for all the years down to Harvey, who partly gave credence to it. That is the source of the bile and that it is engaged in blood-making, and, through its glycogenic action, is a source of heat, are now its recognized properties.

But the experiment of late years give to the organ a duty which is equally as important as these. For it appears, that after the reception of the blood through the portal system, charged with the absorbed products of stomachal and intestinal digestion, it becomes a purifier; for it seems to separate and eliminate such elements of the newly enriched blood as are possessed of properties in their prime state dangerous to life. Of course the material with which the portal blood is loaded consists of peptones; but their composition is not yet of such a character as to fit them for the purposes of nutrition or to immediately allow of their entrance into the general circulation. Ludwig and Schmidt-Mulheim found that the injection of peptones directly into the circulation were followed by dangerous symptoms, and were indeed poisonous. And it seemed to these experimenters that the actions of these bodies resembled in general the poisonous effects of curare. Brunton suggests that along with the peptones, possibly as a part of them, there may enter as the dangerous portion, those peculiar bodies, ptomaines, generally the prodoct of retrograde action and decay, and possessed of such chemical properties as class them with the alkaloids; for when a solution of peptones is treated with ether and potash it yields a body which seems to be a volatile alkaloid, and if putrid peptones is treated in the same way a solid alkaloid, not volatile, is obtained. That these bodies exist in the body in health as well as disease appears from the researches of Burchard. He found them in normal fæces, as well as in the dejection of patients suffering with diarrhœa and typhoid fever. The same author has found these bodies also in the urine in health as well as in disease—and in proof partly of the presence of some such substance, the paralyzing action on frogs of human urine, resembling that of curare as shown by Bocci, with a train of symptoms exactly following the use of ptomaines from putrid matter, may be quoted. But whether these alkaloidal substances or the inherent properties of peptones as yet unexplained are the efficient causes of the action of the peptones before submitting to changes in the liver, the facts seems to stand that this organ has the power of clearing up the blood of a dangerous constituent, or constituents, and preventing its or their entrance into the circulation general. Foster says he uses the phrase "peptones" because there is reason to think that more than one

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kind of peptone exist, bodies of such affinity and yet such definite individualism as to make their diverse character evident, and upon this complex constitution may in a measure depend the peculiar properties we have mentioned. But before the discovery of the poisonous bodies indicated, it had been known, through the accurate work of Schiff, Lauterbach and Ludwig, that the liver had the power to deprive the portal blood of a component dangerous to life. Their statement to this effect, according to Brunton, was based on the observation that if the portal vein in an animal was ligatured, death ensued, and that the approach to death and the completed act was marked by the same symptoms that would appear if the animal had been bled to a fatal amount. Ludwig's explanation of this result was that the blood had been dammed up in the veins and prevented from entering the general circulation, and that it was operative as if the animal had been bled to death in his own veins. To dispose of this explanation, and if possible establish another and more tenable one, Schiff and Lauterbach injected into a frog a portion of the blood obtained from a portal vein which had been ligatured, with a fatal result to the frog. But the use of blood from a portal vein not tied did not cause death, and apparently produced no effect. The contradiction seemingly apparent here is disposed of by Foster, in his declaration that the passage of the digested material into the portal radicles is slowly accomplished, and a sufficient quantity of the noxious substance, according to the experiment just alluded to, is not present in the open and moving circulation to affect the life of an animal other than its possessor. But it appears to accumulate, and a period of time greater or less to gather the power of destroying life, when the blood for the injection is taken from a subject in which the portal vein has been tied, and where sufficient time, (in the experience of Ludwig about three hours,) has elapsed for this accumulation to take place. Following the same general idea, and in proof *pro tanto* therefore of what we have thus far set forth, Murchison, in the introductory remarks to his lectures on functional disturbances of the liver, claims it as a settled fact that this organ not only makes blood, but is likewise a blood destroyer, and *in this process it may be*, but certainly in fact it is a blood purifier. Contributing largely to that transformation of albuminous material, reaching it both from the food and tissues, into urea and lithic acid, and beginning thereby the work of elimination of effete matter, which is finally completed by the kidneys, the liver must certainly perform the work of purification. The destruction of fibrin, which takes place in the passage of the blood through the liver, amounts, according to Brown-Sequard, to 86½ ounces daily. Add to this the apparently well-founded assertion that red-blood corpuscles are measurably destroyed by the action of the hepatic function, and white corpuscles increased at the same time, and that

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out of the blood, most probably from the hemaglobin which is left in the disintegration, is formed the coloring matter of the bile.

Of the glycogenic functions of the liver it is hardly necessary to speak, save to remind you that the performance of this branch of the labor of the organ contributes to the maintenance of animal heat by the supply of an oxidisable material, readily convertible into carbonic acid and water in the lungs; that it assists in cell-growth, as glycogen is always present when cell-growth is in active progress; that it probably is one at least of the sources of fat by transformation, and that some of the certainty of muscular action is dependent upon the sugar made by the liver.

To sum up the work of this great organ, we may say that it receives the blood through the portal system, enriched by the material of intestinal absorption, and burdened with certain waste matter that it has to care for; that it sifts out from this supply all the substances which would be dangerous to life or health, be these substances part of the peptones or such noxious bodies as ptomaines or the products of retrograde change as leucin or tyrosin, which are to become urea and uric acid, that it prepares the rest of material which is brought to it for the great work of nutrition, by restoring it purified to the general circulation, that it makes and sends out the glycogen for its manifold uses in the economy, and that it secretes and excretes bile. In view of this complexity of functions, and of the paramount importance of its continuous action, such drugs as may influence the organ and restore its equilibrium, when it is disturbed, seem worthy of a short notice.

"The notion of a drug which should have a special action on the bile is as old as Hippocrates," says Legg, and after the days of Galen they were called cholagogues. To that portion of the materia medica which includes hepatic stimulants therefore, and cholagogues, we ask your attention. The latter class partakes in most cases of the character of the former and are generally necessary to their completed effect. In a general way it is sufficient to define a hepatic stimulant as a medicine possessed of the power to increase the action of the liver, and in practice this will be still further limited to such articles as will increase the secretion and excretion of bile. For it may be safely declared a rule, that in disorders of the liver, this part of the work will de disturbed, and that the return to a healthy condition from a morbid one will not be expected until there is evidence of a normal secretion and excretion of bile, as the result of medicines exhibited to influence favorably the diseased conditions.

To draw the line between hepatic stimulants and cholagogues we shall say that the latter are substances which if administered to the patient will remove the bile which it finds in the intestines, preventing its absorption and diminishing the quantity in the circulation, the result being, we shall presume, to remove along with the bile such

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morbid matter as it meets, while the former, the hepatic stimulant, has increased the functional activity of the liver, enabling it to free itself from such morbid material as has existed, and from which it could not free itself unassisted, while at the same time it gives expression to its influence for good by the increased secretion of the bile. As we said before, these drugs cannot be accurately classed always under either head, their properties blending and having the twofold effect, the result being measured often by dosages and other influences, and in using the expressions of the authors from whom we shall quote, the two terms are interchangeably used, cholagogue often indeed including in general the idea of a hepatic stimulant.

In this list we shall follow the classification of Brunton, and we turn first to *nitro-hydrochloric acid*. The power of this drug to act as a stimulant to the biliary function has long been admitted, and Rutherford has given it a place among the stronger ones. Later on we shall allude to the methods for determining the relative strengths adopted by experimenters. The mode of action of this acid is somewhat obscure. None of the experimenters have attempted an explanation of certainty, though by common consent Harley, Ringer, Bruton and Stille mention it. Legg only gives it place as one of Rutherford's determination. Murchison says its power as a stimulant is doubtful. He claims that its action is due rather to an improvement of the gastric digestion than to any specific influence upon the liver. This statement leads us back to the theory that the liver is largely concerned in the relief of the system of any such substances whose presence in the digested matter passing through it as would impair the standard health or affect life, and if the digestion in the stomach can be aided or restored by any agent, the labor of the liver is by this change relieved of an increased burden and can perform its normal functions with normal energy. However, this reference of the influence of the acid to the stomach will not explain the results that, it is claimed, have followed its use for disorders of the liver by means of baths, or the application of it to the region of the liver externally. Horatio C. Wood gives undoubting credence to its power to affect favorably the liver, and says its action when administered internally is sometimes so marked that it is followed by bilious diarrhœa. His confidence in the benefits following its use externally to influence the liver is equally firm. Foster admits that the presence of an acid in the duodenum in the region of the orifice of the biliary duct causes a gush of bile to flow, but he says that *probably* this is a reflex action on the muscular walls of the gall-bladder and the ducts, causing a contraction of these with a dilatation or relaxation of the sphincter of the orifice of the common duct. His conclusion is that the effect of the acid therefore is to cause a discharge of bile and not an increased secretion. The experience of the profession which justifies the use of the acid as a hepatic stimulant will hardly bear out this conclusion.

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Next to mercury, the influence of *aloes* on the liver has been more closely studied than probably any other of the articles used for purposes of increasing the secretion of bile. Its power seems to be most marked in small doses—a fact that may find an explanation in the tonic properties of the drug. It is slow in its action, and in its passage through the intestines stimulates them to secretions of intestinal fluid. Measurably these facts may account for its stimulating effect, as in its transit it may be stopped and absorbed in part, to return again with the bile which it has increased in the liver, and together with this secretion exhibiting its full force. This, however, is only a probable action. Stille says of its effects, quoting Widekind, that it primarily augments the biliary secretion, and that its secondary effect, or the consequence of the former, is to purge. Widekind describes its action in doses of four to eight grains as being attended by no distress except occasional eructation, and a warmth and uneasiness in the region of the liver before the commencement of its purgative effect. The evacuations, sometimes attended with griping, consist of several feculent stools of natural constitution, and if several follow one another very closely they exhibit a bilious character, and have more or less mucus in them. The use of the drug by enema and its retention for seven or eight hours, produced a result similar to the one following its exhibition by the mouth, an apparent warrant to the conclusion that its action was due to the increased secretion of bile, which was discharged with it, as the drug could not remain for so long a time in the rectum or lower bowel unabsorbed and if absorbed it must have passed back through the liver and out into the intestines before affecting the result which appeared. The same author's commendation of its use in simple atonic jaundice, when no obstruction to the passage of the bile had occurred, is borne out by the authorities. Widekind claims that its exhibition in such cases is followed by good effects, when saline and other purgatives have failed, and that its cathartic action was not manifested until it returned to the stools their natural color. Ringer and Brunton quote Rutherford as authority for its prominence as a hepatic stimulant, and Rohrig declares that when it was introduced directly into the duodenum of a fasting dog, aloes greatly increased all the constituents of bile, although it purged but slightly.

Podophyllin has been so lauded as as agent for increasing the secretion of bile, that it has even now a place of esteem in many quarters above the mercurials. Its power being admitted, it was eagerly seized upon from this recorded clinical experience in its use, and from the desire to substitute for the mercurials a drug of equal power and divested of the dangers which the followers of John Hughes Bennett's Edinburgh Committee claimed were attached to their administration. But Bennett did not give his sanction to podophyllin, and it was the

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labors of Rutherford and his colleague Vignal who found that if injected into the duodenum that it increased the flow of bile, and that this flow was still more decided, if bile were already present in the duodenum. Ringer classes it with mercury and recommends its use, especially in minute doses, for the relief of the constipation that often succeeds a diarrhœa in the earlier months of life, when the stools are brittle, clay-colored, or tinged with green. He says no remedy so promptly restores the natural yellow color to the stools and brings back the proper consistency as podophyllin. For this purpose he says a drachm of alcohol should hold in solution a grain of the resin and a dose for the child should be two or three drops on sugar twice or three times a day. Its power seems chiefly expended in the duodenum, though its purgative action affects the whole intestine.

Rhubarb receives the double testimony of both Rohrig and Rutherford, and the latter says of it that it increased the quantity of bile, but did not exhibit any effect upon its composition.

Colocynth first and next to it in orders *jalaps* are listed as powerful hepatic stimulants, the former increasing both the fluid and solid constituents of the bile.

Sodium phosphate, sodium and ammonium benzoates are among the more powerful of the drugs of Brunton's list favorably affecting the increase of bile. The former has found its chief use in children, when derangement of the liver has been indicated by whitish stools, or whitish stools tinged with green. Legg includes with the benzoates the salts of salicylic acid, following for his authority the experiments of Rutherford. The mode of action is very obscure, though it is probable that the peculiar anti-fermentative properties of these articles bear a prominent part in determining their action upon the liver. Bartholow has claimed for salicylate of soda the power of discharging the discoloration of the skin in cases of jaundice, after the bile has returned to its proper channel and the stools have again attained their natural color.

Iridin, *euonymin*, *phytolaccin*, *colchicin*, *sanguinarin leptandrin*, *hydrastin* and *juglandin* were all carefully studied by Rutherford. Of these, according to the summary of Wood, iridin purged as well as increased the biliary secretion. euonymin, sanguinarin and colchicin powerfully affected the secretion, but the two first did not purge, the latter did. Of the others, phytolaccin is of use in this class, with double action, but leptandrin, juglandin and hydrastin were all feeble as hepatic stimulants and purgatives. No doubt these drugs deserve a more extended trial than they have received, and that the expectations of Rutherford for their beneficent effects will be more or less realized. Leptandrin, of this weaker class, has been more used in this country, though its place is a secondary one, and within the last year or two hydrastin has been pushed up and a more decided confidence in the result of its exhibition in biliousness claimed for it.

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Colchicum has been long accepted as a valuable remedy in gout, and the essential pathological feature of this disease being the excess of lithic acid, its place as a curative agent may be dependent upon its influence upon the liver, by its stimulation effecting the elimination and preparing for excretion in this organ the uric acid that is in excess. In addition and probably as a supplement to its action on the bile, it increases the flow of urine, its solid constituents as well as the watery portions, and aids cutaneous transpiration. It holds its place as a hepatic stimulant undisputed by any of the experimenters

Ipecacuanha is classed among the more powerful of the hepatic stimulants, but its action has been seriously questioned. A very plausible explanation of its action, and one that has gained much support, is that its effects are spent upon the mucous membranes of the ducts, producing a thinner secretion of mucus, opening these channels and allowing the bile to flow out into the intestines more rapidly.

There is to be considered among the stimulants to the biliary secretion a number of influences which probably deserve mention in this connection. The ingestion of food, and the formation of acid chyme which is emptied from the stomach into the duodenum, both independently of each other and by the combined action of the two, increase the amount of bile. Muscular exercise—rapid walking, rowing or running, especially in athletic sports that require much and rapid change of position—all efforts that increase the action of the diaphragm—show a power to increase this secretion apparently, although the cause of the appearance of more of the bile in the intestine, or in a hepatic fistula, was very well explained by the statement that these movements only expelled from the ducts and gall-bladder the stored up bile more thoroughly than would have been done otherwise.

This rapid summary of the list leaves us only to mention, before entering into the discussion of the mercurials, the salines—*Rochelle, Epsom and Glauber Salts.* But the influence of all these over the liver is very slight.

The consideration of the mercurials for the purposes in which we have indicated the use of the other drugs, brings in two prominent thoughts—the experience of the physician and the work of the experimental physiologist. In the discussion of the merits of these preparations of mercury, hardly any assertion has been made that has not been severely criticised and questioned, and out of the discussion grew the valuable works of Rohrig, Rutherford and Vignal, and John Hughes Bennett's Edinburgh Committee. I hope I shall not draw too long upon your patience by offering a concise statement of the arguments in the matter. They seem so full of instruction that a repetition of them ought never to be out of place in such a paper as this.

According to Legg, from whose work on "Bile Jaundice and Bilious Disorders" we shall obtain such statistics as we may present, and to

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which work we are indebted for much of the information on which we have founded this essay—according to this author, Hermann Nasse, of Marburg, in 1851, was the first to study the effects of drugs, and especially calomel, on the secretion of bile. The flow of bile into the intestines and the quantity appearing with the stools was so difficult of determination that he adopted the plan which has since been used as the only correct one, to settle the questions involved in this issue, that is, the measuring of the bile poured out of a biliary fistula. His plan consisted in feeding a dog on a uniform diet, which was supposed to be bread and potatoes, from the 6th to the 15th of the month, (it was in November) and to each meal carbonate of soda was added. Between the 24th and 27th of the month, within thirty-six hours, ten grains of calomel was given to the dog. On the first day the animal ate but little; on the second the food was untouched at noon but on the third day he ate all that was set before him. The quantity of bile was lessened on the first day, but increased the last two, apparently with the accumulation of the calomel. The amount secreted and gathered from the fistula for eight days before the administration of the medicine showed a mean of 126.6 grs. of fluid bile and 2.88 grs. of solid bile, as compared with the mean of the two last days of the dosing with the calomel of 212.5 grs. of fluid bile and 4.38 grs. of solid bile. This points directly to an increase.

Kolliker and Muller waited until the twenty-sixth day after the fistula was established, and in the forenoon of the day gave four grains of calomel. Five observations in the afternoon showed a decrease of the bile below the normal. Two later experiments showed the bile thick, brownish and lessened in quantity. But Legg does not attach much importance to these results, as the dog was sick, had an exhausting diarrhœa and would only take as food bread and milk.

In 1858 Dr. George Scott set up a biliary fistula in a dog and calculated the amount of bile, fluid and solid, secreted, first in twenty-four hours without calomel, and then in the same period with calomel. Without going into the details of his experiments, the conclusion he reached was that a diminution, and not an increase, resulted after large doses of the mercurial, and that the quantity of food taken did not influence the secretion so as to affect the value of his experiments.

The Edinburgh Committee, under the lead of Hughes Bennett, do not agree with the experiments of Dr. Scott, whose experiments, by the way, were made in the laboratory of Dr. Lionel Beale. They think the decrease in the bile is not as great as he thought it. In beginning their work they set out with a check experiment to prove that mercury would have the same action on dogs as on men, and to this end they injected under the skin of dogs corrosive sublimate. This was followed by a discharge of mucus from the nostrils, fœtid breath and sore gums, and these results appeared alike in dogs in which no biliary fistula had

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been made and those that had been subjected to this operation; but in the former lot a profuse diarrhœa ensued, but was less marked or absent in the latter. So far they claimed the effects of mercurials on the dog and man are identical. Trials were then made with blue pill and calomel, the latter being used in both large and small doses, with a result pointing certainly to no increase of the secretion, and probably to a diminution. Corrosive sublimate was used with a like result, but all of the animals seemed to have succumbed early to the effects of the drug, and in none of the cases does it appear that they maintained for any length of time even a moderate amount of strength or health. Next in order of time come the experiments of Rohrig, which were published in 1873. He pursued a different plan from all former experimenters. Previous to his undertaking the work, the mode of management was practically as follows: A biliary fistula being set up in a dog, sufficient time was allowed for the animal to regain his health and the amount of bile passed in a series of days was calculated and a mean established. Then the same series of measuring was followed up after the exhibition of a drug—generally a mercurial—and a mean of these struck. But Rohrig, and after him Rutherford and Vignal, first curarized the dogs and rabbits used for experiments until they were motionless, and to preserve life artificial respiration was practiced. Great regularity was found necessary in the performance of this practice, for it appeared that any change in the breathing led to a difference in the manner of the expulsion of the bile. "A glass canula was inserted into the common duct, the gall-bladder was pressed upon so as to fill the canula with bile, and the cystic duct was clamped to prevent the return of bile into the gall-bladder." Thus all the bile passing through the hepatic duct escaped through the canula. This was carefully collected. The movement of the secretion and its quantity was measured or judged by the number of seconds between the fall of the drops from the canula. Rohrig says that after large doses of calomel the bile will again flow, after it has completely stopped, and he believes that it will increase the secretion if it has only been diminished; but he does not think its power is in excess of that of sulphate of magnesia, which he claims is a feeble stimulant. As he only made one experiment on the latter point, Legg dismisses the opinion as unworthy of much respect.

In 1875 Rutherford and Vignal published their experiments and the findings of these gentlemen have been taken since as the basis of all the discussions and opinion of the profession since. They only varied Rohrig's method by collecting the bile in finely graduated tubes instead of counting the drops by the seconds. The animals were curarized and treated as in Rohrig's experiments, and the records show these results: The injection of ten grains of calomel into the duodenum caused an increase of the secretion, the measure two hours before the injection

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being 3.35 C. C.. and two hours just after 4.72 C. C. The result in two other experiments varied from this, as no increase appeared in one of them and a decrease was noted in another. In three other experiments, in one there was no increase, in one a decrease, and in one an increase, but this had begun before the drug was given. The addition of bile to the calomel did not affect the amount secreted. As these injections had been made into the duodenum and had not been subjected to the acid of the stomach, and as it was suggested that probably the influence of this acid on the calomel was to change a portion of it into corrosive sublimate, experiments were made with the bichloride of mercury. Without the addition of bile to the solution of the drug, a small increase appeared; but when this fluid was added in two experiments, in the first an increase was noted, and in the second the result was very marked. In reviewing the opinion of these experiments, that it is the portion of calomel changed by the gastric juice into corrosive sublimate that is the effective part of the drug as a hepatic stimulant, Legg says he does not think the question has been answered, and leaves the point open. We have seen the opinions of these experimenters on the other drugs, which were made in the course of the examination of the action of calomel and the other mercurials. H. C. Wood sets out all these facts and says that these evidences do not warrant any positive deductions as to the effect of purgatives upon the biliary secretion of dogs that are healthy, and that these facts must be laid aside or received with much reserve when we are studying the action of hepatic stimulants on man, and that our conclusions will be more safely based on clinical evidence. As mercurials in health increase the flow of bile, and if it has been suspended or diminished, will renew it or increase it, the conclusion seems to him inevitable that it must have a directly stimulating effect on the biliary secretion. The objection that the increase follows as an effect of the increased peristalsis set up by the mercurial, causing the expulsion of the bile from the gall-bladder and its being swept out of the bowels without absorption, is answered, he claims, by the facts that the color of the action under the influence of a mercurial is restored when it is pale from arrested secretion, and often without producing a diarrhœa. Moreover, a diarrhœa existing with colorless dejections, a change of color following the treatment by mercurials, does not make an increase in the diarrhœa necessary, and there may be a decrease of liquidity after the exhibition of the mercurial at the same time as the improvement is observed in the color. Other drastic purgatives, more potent than the mercurials, fail to accomplish the result that is justly expected of a mercurial. And lastly, a diarrhœa does not cause bile to appear in an increased amount in the dejections. Bartholow does not deny the increase of the bile, but he regards it as a pathological phenomena. While he admits that the action of the mercurial may be

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stimulating by its direct action on the hepatic cells, the increase of normal bile is by no means beyond dispute. He believes that the increase of bile in the passage from the bowels is simply the result of the irritation caused by the presence of the purgative mercurial in the duodenum and its reflex stimulation to the gall-bladder, with a consequent contraction of that viscus and an extrusion of the bile stored in it. He does not think that the stimulating power of the mercurial is above that of the resinous cathartics or Croton oil. Sidney Ringer rapidly presents the conclusion of the experimental physiologists, and in answer says: "Yet the experience of generations strongly supports the general conviction that in some diseases calomel, as well as the other preparations of mercury, does increase the bile. Moreover, it is not difficult to conceive that in a given disease, mercury may set aside some condition hindering the formation of bile, and then act as a cholagogue, (hepatic stimulant), though possibly in health it might check the secretion." Harley, in the portion of his work on the liver devoted to the general treatment of disorders of this organ, has this to say: "The first remedy to which I shall your attention is the well-known, old-fashioned mercurial, which after having been in general use among all ranks and classes of society for generations, may still be looked upon as the physician's mainstay in the treatment of the majority of liver cases. Every housewife knows that a dose of calomel at bed-time, followed by black draught in the morning, will suffice in the majority of cases to cure an attack of biliousness, and that, too, within twenty-four hours after its administration. At the present moment, however, a change has come over the spirit of the physician's mercurial dream, and the poor old drug has been placed at the bar, like a suspected criminal on trial, on account of experimental physiologists having found that when administered to the canine species, it does not behave itself in what according to old-fashioned ideas might be called an orthodox manner." He denies that mercury in any form can increase the secretion of bile, no matter whether the dose be large or small, providing the liver is in a healthy condition; but he says the apparent increase is simply the emptying of the gall-bladder, caused by the reflected irritation of the duodenum. While admitting that there is sufficient evidence derivable from physiological sources to prove that mercury has no power to stimulate the normal liver to secrete bile, he firmly asserts the truth of the statement that in certain cases of diseased liver, where the biliary secretion is retarded and diminished, or even arrested in consequence of a congested condition of the tissues of the liver, mercury has a powerful effect in increasing this secretion and restoring it to an amount approaching the normal. His explanation of this power which is indirectly applied to the hepatic cells, is the antiphlogistic effect of the drug in question on the hepatic capillaries, such being the influence upon these vessels that a cessation

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of the congestion follows and relief from pressure allows the hepatic cells to assume their normal work. The fact that an increase follows the administration of the mercurial is admitted, the floundering of these speculators as to the mode of producing the result only remotely interests us until there shall be such a decided opinion justified as to deserve a general following. Legg says the action is through the nervous supply of the liver, after he has satisfactorily to himself explained away all other methods of accounting for the stimulating influence of the mercurials.

The practical pointed remarks of Fothergill seem to form an excellent conclusion to this essay. He has been discussing the abuses in the indiscriminate employment of mercury and deprecating these irrational methods of practice, at the same time he sees in the reaction a wide-spread and unwarranted skepticism as regards drugs for any purpose, "while an unbounded faith in beef tea and the sustaining plan of treatment now generally obtains" with the anti-mercurialists. "Nevertheless, in many cases a mercurial and a saline afterward form a very good plan of therapeutic attack in emergencies. Nor does this confession of faith in mercurials as a cholagogue involve a retrograde movement, which will extend to resuscitation of a belief in witchcraft or the tenets in Druidism. To advocate the proper use of mercury as a cholagogue is not the revival of an exploded superstition. Potent for good, still more potent for evil, when abused, mercury has fallen from its high estate into comparative disgrace and neglect. Its claims however must be considered rationally. Highly as it was once extolled, it is now equally abused and depreciated. The reaction actually extended to the point of abandoning mercury in the treatment of syphillis. Slowly the tide of indignation against the use of mercury has ebbed, until its use in syphilis is once more universal."

Still further on Fothergill says: "The late Prof. Hughes Bennett hated mercury with a virulence scarcely conceivable by those who did not know him. He denounced it, he inveighed against it, he poured all the power of ridicule he possessed, and that was no small amount, upon it; he shot every arrow of sarcasm in his quiver, and it was a pretty fully one, at the misguided, wicked persons who dared to advocate the administration of one grain of calomel. Peace to his ashes! an iconoclast, he did good service in his way. The crusade against mercury is now passing away, and its rational use is finding advocates everywhere. In speaking of the use of mercury in liver disturbances Dr. Budd wrote: 'The marked temporary benefit often resulting from mercury given for this effect has, from the difficulty of distinguishing the various diseases of the liver, and the consequent indiscriminate use of the drug, led to great evils.' The way in which German writers have condemned the English use of mercury has done much to help on the growing disuse of the drug; their condemnation

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has been wholesale, thorough-going and indiscriminating itself, and has been sometimes the blatant utterance of ignorance as well as at times genuine, honest criticism."

Dr. Murchison has put the position of mercury very pointedly. After giving the results of numerous experiments he proceeds: "Mercury and allied purgatives produce bilious stools by irritating the upper part of the bowel and sweeping on the bile before there is time for its reabsorption. It would appear that mercury, by increasing the elimination of bile and other products of disintegrated albumen circulating within the portal, is, after all, a true cholagogue, relieving a loaded liver far more effectually than if it acted by merely stimulating the liver to increased secretion as was formerly believed, and as some authorities yet maintain—for in this case it might be expected to increase instead of diminishing hepatic congestion" Here he differs entirely with Harley, but he goes further: "It is not impossible that the good effects of mercury on the liver and in some forms of inflammation may be due to its property of promoting disintegration. But in whatever way it is to be explained, the clinical proofs of efficacy of mercury in certain derangements of the liver are to my mind overwhelming. I say so more advisedly, because I was taught to regard mercury as a remedy worse than useless, not only in hepatic diseases but in syphilis; it cannot therefore be said that the convictions forced upon me are the results of preconceived opinion." And here Fothergill leaves Murchison with these remarks with which we shall dismiss the subject: "Dr. Murchison was a pupil of the late John Hughes Bennett. So was I; and I can also plead that my belief in mercury has been forced upon me by experience, for Bennett's thundering diatribes dominated my mind for a long time, and the impression made by him on my youthful mental forces was only ground out by the resistless action of accumulating experience."

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MALARIAL HÆMATURIA.

By JULIAN M. BAKER, B. S., M. D., Tarborough, N. C.

[Pittman Prize Essay of the Medical Society of the State of North Carolina, for the year 1887.]

Since the close of the Civil War, our medical literature has abounded in reports of a disease considered of malarial origin, and having for its most prominent features jaundice, dark urine, nausea, great depression and remarkable fatality. Under various names, physicians of the South and Southwest have detailed its outward phenomena, but few however pursuing the investigation to the determination of pathological facts and the establishment of definite pathological relations. The disease was at first regarded as a new one; one that did not exist prior to 1866 or '67. An examination of the works of some of the classical medical authors reveals the fact that even in the time of Hippocrates certain urinary changes were noted in the "Ardent fevers," and that these changes correspond with those of Malarial Hæmaturia of our times; leaving little doubt that the disease did exist in the warm climate of Greece more than two thousand years ago. Galen gives an unfavorable prognosis in paroxysmal fever accompanied by thirst, black urine, dry tongue, delirium and coldness of the extremities. Cornelius Celsus recognized the appearance of blood in urine of fever patients as foreboding evil.* Livy mentions the occurrence of fifteen plagues at Rome up to B. C. 450, and contemporaneous writers attribute the origin of these plagues to effluvia from neighboring marshes. When the Pontine marshes were drained, Rome became more healthful. After the subjugation of the city, the aqueducts were cut, the drains filled, and the country was again afflicted with a malignant type of malarial fever. In the writings of Lancisius an accurate account is given of these epidemics, detailing many characteristics of the disease. Still later, in the writings of Lantter, Torti, Tissot, Senac, and many others, a disease is described characterized by suppression of urine, coma, convulsions, congestion of brain, lungs, liver, spleen and kidney, and hemorrhage from kidney and bowels, and in this is recognized the similarity to Malarial Hæmaturia as it exists with us, or so nearly resembling it, that little has been gained by progressive development. Senac, who was physician to Louis XV. with extensive and accurate observation on urine, in 1769, after referring to the red appearance, regards the settling to the bottom of vessels of a white matter as a favorable sign. Alibert, in 1807, in his treatise on malignant fevers, calls attention to the condition of urine, saying: "The diminution in quantity and the assuming a black color is an alarming symptom."† Various writers at different times have recorded

*Cels. De Medicine.
†"Treatise on Malignant Intermittents." J. I. Alibert.

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the remarkable fatality of malignant fevers in Java, Guinea and hot climates, accompanied by hemorrhages, and according to Lind, this is the disease most to be dreaded by Europeans visiting the Tropics.* In the putrid remittent of writers of the first half of the present century, accompanied by nausea, vomiting dark matter containing bile, sometimes hemorrhages from eyes, nose, bowels or kidneys, yellow skin, black urine, and great mortality, clearly the essential character of Malarial Hæmaturia is exhibited.

More credit is probably due Professor Jones, of New Orleans, than anyone else for determining definite pathological facts and a scientific and exhaustive study of the disease. According to Jones, the first case published in this country was by C. Gidden Young, M. D., of Greenwood, La., in October, 1843, and reported as a case of Intermittent fever, with periodic hemorrhage from kidney.† R. H. Day, in a paper read before the Louisiana State Medical Society in April, 1886, combats the idea of recent development and affirms that he met with the disease in 1837, in the bottom lands of Wabash and White rivers in Indiana and Illinois. He maintains that "It is a miasmatic disease, caused by malaria, whatever that undefined and as yet undetermined fever poison may be. Its occurrence in the same localities in the same seasons of the year; its striking resemblance and strongly marked physiognomy to Malarious Bilious fevers, endemic in those sections, and its general amenability to the same therapeutic agents, reveals its kinship, stamps it as allied to, and of common origin and nature with them." Cases were reported to the Alabama State Medical Society in 1850, by Dr. T. H. Anderson. It was recognized in 1855 by Oxamendi and Nunez in the West Indies, always occurring in swampy and malarious districts, and when cured at all, cured by Sulph. Quinia.

Dr. James Copeland, in his Dictionary of Medicine, published in 1855, says: "Periodic Hæmaturia is not uncommon in malarious climates."

The first to carefully investigate the pathological lesions of the disease was Dr. Freid Theod Frerichs. He established the fact of its existence in Breslau in 1854. In his work on diseases of the liver, the pathological changes of Malarial Hæmaturia are recognized in the "Pigment liver," "Melanæmic liver," etc. His classification of malarious fevers with pigment liver, as observed at Breslau, was as follows:

I. Cases with predominant brain symptoms.

II. Cases in which the kidneys are prominently implicated.

III. Cases with predominant derangement of the gastro-intestinal tract, and of appertaining organs, but particularly the liver.

IV. Those forms in which local derangement is not conspicuous, but Anæmia and Hydræmia, resulting from derangement of spleen, con-

*"Diseases Incidental to Europeans in Hot Climates." Dr. James Lind.
†"N. O. Med. and Surg. Journal," Nov., 1845.

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stitute most important symptoms. In these cases the pigment in the blood is of subordinate importance, inasmuch as its quantity and character do not give rise to extensive lesions of capillary circulation.*

The second class, "Cases with predominant affection of kidney," is of special historical interest. In that class of cases, "The urine was deep reddish brown, and coagulated upon boiling or addition of nitric acid, pulse was from 80 to 120, and much complaint of headache and great depression. Post-mortem showed the spleen large, soft and darkly speckled, liver normal size, surface smooth, margin sharp, its parenchyma loaded with greyish brown pigment, bile pale and copious, kidney lobulated and on section presented a homogeneous, brown, glistening surface. There were numerous pigment cells and scales in the glomeruli of malpighian tufts; bladder contained bloody urine."†

These observations agree substantially with those of Jones in 1857, and show that profound lesions of liver, spleen and blood precede and accompany malarial diseases.

From the observations of Frerichs and of Jones, we learn that the pathological changes of all forms of malarial fever are uniform, and consist essentially in "Diminution of colored blood corpuscles, deposit of pigment in liver and spleen and increased secretion of bile."‡

The composition and amount of urine was found to vary with stage, intensity and type of disease. Jaundice, bilious vomiting and dark brown or black urine was observed in the gravest cases.

From this brief historical allusion we are forced to conclude that Malarial Hæmaturia or Hæmorrhagic Malarial fever is not a new disease, but its recognition as a distinct type is modern. The sam, symptoms and signs were recognized more than two thousand years ago, but only since 1866 or '67 has it been given so dignified a place as a separate and distinct type in the classification of diseases. It was before that time considered a complication of other forms of fevere nevertheless, its essential characteristics were known to Greek, Roman and Arabian physicians. American authors, with few exceptions, even now fail to give it the place in their works which our experience consider it should have; this is owing to the fact, not that it is a new disease or a rare one, but that it exists only in a limited area of territory, and the medical men of that portion of the country are not generally book-makers, and when articles have appeared from physicians living in those sections in which it is prevalent, the effort was not to the determination of definite pathological relations, but more to outward symptoms and treatment.

Descriptions of the disease have appeared under various names in the periodical literature of the last twenty years, such as Recurrent

*"Clinical Treatise on Diseases of the Urine."
†Ibid.
‡"Med. and Surg. Memoirs." Joseph Jones, M. D.

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Malaria Hemorrhagica, Epidemic Jaundice, Hemorrhagic Malarial fever, Icteroid Pernicious fever, Malarial Hæmaturia, Country Yellow fever, etc. The most appropriate name, it seems to me, is Endemic Hæmaturia, but I shall adopt the nomenclature now generally accepted.

There has occurred in this section a number of cases having the general characteristics of Malarial Hæmaturia as reported from other sections of the country, but with slight specific differences.

Instead of following the usual course and generalizing as to symptoms, course, duration, &c., I will select a few cases that have come under my charge recently, and which I consider typical of the disease in this section. The general deportment may be drawn from the following:

CASE I.—Mrs. E., white, aged 32, mother of five or six children, a strong woman, residing about four miles from town in a section not specially malarious, (but intermittent and remittent fevers had occurred occasionally on same plantation during present fall,) in about one mile of Fishing Creek, on an elevated place. Patient had dark hair and eyes, and had led the life of an ordinary housewife of moderate means for years. Had had one attack, similar in all respects to present one, several years previous, from which recovery had been complete.

Was taken suddenly on September 15th, 1885, at 7 A. M., with severe rigor, which soon passed off, and was followed by reactionary fever. I was called on the following day about 9 A. M., when the above history was elicited. Patient was of a deep golden color, lips, conjunctiva and tongue pale and anæmic, with the same golden appearance. She was suffering with intense nausea and cephalalgia. There was anorexia, great uneasiness and anxiety of countenance, skin cool and clammy, tongue furred and dry. Pulse 134; Temp. 100⅘° F.; Resp. 28. Bowels constipated, urine scanty and of dark brown appearance; vomited matter of a deep yellow color, staining every article with which it came in contact; expectoration of same golden hue. She had passed the black urine and vomited yellow matter since the day previous, when first taken. It had continued without cessation up to time of visit. There was slight enlargement of liver and spleen, with tenderness over these organs, and upon firm pressure in lumbar region. Diagnosed Malarial Hæmaturia, and urine taken home for examination. The following was the result: Specific gravity, 1,014; color, dark reddish brown; reaction, acid; estimated quantity in previous twenty-four hours, 20 or 25 ozs.; albumen estimated 20 per cent.; no sugar, but an abundant dark brown deposit. Under the microscope, this deposit was found to contain the following: Crystals of uric acid, a few of urate of soda and amorphous phosphates; also coloring matter of blood and bile, with a few colored blood globules, swollen, distorted, broken or shriveled, and pus corpuscles. Blood and epithelial casts of straight

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and convoluted tubules and an abundance of kidney epithelium, with some from bladder, vagina and mucosa of uterus. An acute croupous, hæmorrhagic nephritis, with slight cystitis, vaginitis, and inflammation of endometrium. The two latter probably having existed prior to present attack.

September 27th, 9 A. M. Passed a very restless night, delirious and semi-comatose; when aroused expresses great anxiety and seems to realize the gravity of the disease. Pulse 130; Temp. 99⅘° F.; Resp. 30. Grave symptoms of previous day continue; urine still dark; stomach little more quiet; marked cerebro-spinal disturbance. Estimated quantity of urine in past twenty-four hours, 22 ozs; specific gravity, 1,014; same morphological characteristics as day previous. Bowels moved freely from cathartic administered previous visit. Treatment then inaugurated, and which is detailed later on, was continued.

September 27th, 9 P. M. Pulse 123; Temp. 99⅘° F.; Resp. 24. No perceptible change, except takes nourishment more freely and stomach more retentive of both food and medicine. Coma seems to be deepening.

September 28th, 9 A. M. Temp. 98° F.; Pulse 140; Resp. 30. Attendants say had one or more convulsions during night, and had passed no urine since previous visit, catheter removed about two ounces of urine, similar in all respects to that previously voided; specific gravity of this 1012; coma profound; skin cool and clammy, and every indication of approaching dissolution. About 2 o'clock P. M. there seemed to be an effort to rally; four or five ounces of nearly clear urine was passed; specific gravity 1010, but differed from that previously passed only in containing less biliary and blood coloring matter. In a few minutes she again fell into the profound coma, with frequent convulsions, and died about 6.20 P. M. Cause of death in this case was undoubtedly uræmic poison from suppression of functional activity of kidney by the structural lesions of acute croupous nephritis.

CASE II.—Mrs. B. E., a sister-in-law of Case I, living in same section, one quarter of a mile distant, 33 years old, blonde, widow, four children. Had lived at present abode seven or eight years, and had had a previous attack before moving here, while residing in another part of the country. Had had chills and fever for a week prior to present attack, for which large quantities of sulph. quinia had been administered. Was called in on August 4, 1886, 12 M. Present attack had come on gradually, symptoms increasing in severity from day to day, until at the time of my first visit I found marked jaundice, skin of a golden yellow color, lips, tongue and conjunctiva all colored, intense pain in lumbar region, urine scanty, of characteristic dark brown color, staining sides of vessels yellow when tilted from side to side, bowels constipated, nausea, and vomiting characteristic bilious matter, tenderness over epigastrium and hypogastrium not marked but some

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slight enlargement of liver and spleen, no cerebro-spinal disturbance, mind perfectly clear and composed. Pulse 118; Temp. 102° F.; Resp. 24. Examination of urine—specific gravity 1016; contained salts of urea, some simple and triple phosphates, albumen, hyaline, epithelial and blood casts of tubuli uriniferi, epithelia from kidney tubules, coloring matter of blood and bile, disintegrated blood corpuscles, but some few intact, and pus, indicating acute croupous hemorrhagic nephritis with a constitution much impaired, but not to the same extent as in Case I. Estimated quantity of urine in twenty-four hours 30 ozs.

August 13th, 9 A. M. Stomach more quiet, retains both food and medicine generally. Pulse 114; Temp. 98½; Resp. 24. Slept two or three hours during previous night. Bowels moved copiously by cathartic; jaundice not so marked; urine slightly clearer; specific gravity 1016; estimated quantity in twenty-four hours, 18 or 20 ozs; still contains albumen, casts of tubuli uriniferi, coloring matter of bile and biliary acids and blood, in fact, same as day previous, except in diminished quantity.

August 14th, 9 A. M. Patient much improved, jaundice almost entirely gone, urine considerably clearer, although still contains albumen, coloring matter of bile and blood and casts; specific gravity 1016. Patient passed a very good night, takes food and nourishment sufficient, bowels kept open by cathartics, tenderness over epigastric and hypogastric regions has entirely disappeared. Pulse 95; Temp. 99° F.; Resp. 20.

August 15th. Improvement continues; still very much prostrated, so much so as to be unable to turn in bed without assistance; jaundice disappeared; urine nearly clear. Pulse 95; Temp. 99⅕; Resp. 20.

August 16th. Improvement continues; urine clear; contains no albumen or casts; an abundance of salts of urea; no coloring matter of bile or blood; specific gravity 1017; bowels still constipated and moved only by cathartics. From this time on, under a general tonic treatment, in two or three weeks patient was entirely restored to health.

It is common to have cases progress favorably, as this one did up to the 17th, and when we begin to congratulate ourselves on the favorable issue, to be suddenly summoned to the bedside to find either that death has already taken place, or does in a few minutes after our arrival.

The urine not becoming dark again, or other indications of fresh malarial absorption, death in these cases is due to cardiac thrombosis, which is the result of the hyperfibrinated condition of blood due to malarial poison.

In Case II, on August 20th, urine again became dark, with a return of nausea, but on being voided a few hours after it was again clear, and there was no interference whatever with the steady progress toward recovery.

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CASE III.—Arthur E., nephew of preceding cases, residing in same locality, about one mile distant, blonde, aged 15, has resided at present abode all his life. Had an attack previously, while on a visit in an adjoining county, several years ago, from which he recovered, and since then has suffered almost continually with headache; otherwise healthy and strong. Had a few chills immediately prior to present attack. Was called early on the morning of November 11th, 1886; found skin golden yellow, lips, tongue and conjunctiva same; nausea intense; restless, anxious, great prostration; jaundice ushered in night previous by a severe rigor, which lasted an hour or more, when urine became cloudy and scanty; at the time of visit it was almost black. Was unable to retain anything on stomach, vomited matter that stained everything yellow, and at times, black; pain and tenderness in lumbar, epigastric and hypogastric regions; there was slight enlargement of liver and spleen; no disturbance of cerebro-spinal centers; tongue dry and covered with a dark fur. Pulse 130; Temp. 100° F.; Resp. 22. Examination of urine showed specific gravity 1017, albumen, casts and epithelia of the tubuli uriniferi, crystals of urate of soda, uric acid and a few amorphous phosphates, all stained with coloring matter of bile and blood, no blood corpuscles, but a few pus corpuscles; estimated quantity in twenty-four hours, 36 ozs. Bowels constipated and cephalalgia intense. Numerous bacteria were observed in urine, although examined a very short while after being voided. Vomited matter contained biliary acids, biliverdin and cholesterin, epithelia from mucosa of stomach and bile ducts and disintegrated blood corpuscles.

November 12th, 9 A. M. Pulse 130; Temp. 97° F.; Resp. 20. Passed a restless night; urine still black; vomiting continues; icteric hue not so deep; takes no nourishment by mouth; bowels moved freely during night by cathartics; composition of urine same as previous day; passed larger quantity, estimated at 38 ozs. in twenty-four hours; specific gravity 1017.

9 P. M. Skin decidedly clearer; urine passed more copiously, but still dark colored; nausea ceased almost entirely; able to retain both food and medicine; urine not examined. Pulse 112; Temp. 98½° F.; Resp. 21.

November 13th. Somewhat better; skin decidedly clearer; no return of nausea; urine still dark colored; passed about 40 ozs. in last twenty-four hours; still contains albumen, casts, etc. Pulse 114; Temp. 98° F.; Resp. 19.

November 14th. Improvement continues; urine slowly clearing up; regaining strength very slowly; skin perfectly clear; passed a tolerably quiet night; bowels moved by cathartics. Pulse 112; Temp. 98½° F.; Resp. 19.

November 20th. Improvement has been gradual since last report;

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urine gradually becoming clearer until it is perfectly so, and contains albumen or casts or coloring matter of bile or blood; no return of nausea. Pulse 102; Temp. 97° F.; Resp. 19. Still unable to move without help.

November 21st. Urine again became cloudy, but no other indication of a relapse. It contained no albumen.

November 22d. Urine has again become clear; gained some strength; takes food with a little less reluctance. From this time on the case has progressed satisfactorily, without an untoward symptom, the only feature worthy of note being the slowness with which strength was regained, it being fully two months before the patient was able to walk, although requiring no attention other than a general tonic treatment.

A fourth case is reported, not because of any special clinical difference from the preceding ones, but because in it a post-mortem examination was made, and on the result of that the ideas as to pathology subsequently expressed are in the main founded.

CASE IV.—Rufus W., a negro man, 40 years old, strong, robust, athletic, a farm laborer, residing about four miles from town, near low grounds of Tar river. Was taken suddenly while at work in the field, picking cotton, on October 13th, 1886. Had a chill in the afternoon and returned to the house. At night, in a semi-conscious condition, he undertook to go out the door to void urine; in the effort it was noticed by his companions that a quantity of bloody urine was passed along the floor, from bed to door; immediately a physician was sent for; upon arrival patient was found delirious, with great prostration. Pulse rapid and feeble, 120; Temp. 100½° F.; Resp. 22.

The black skin did not show the icteric hue, but conjunctiva, lips and tongue were of characteristic color; urine scanty and dark reddish brown, and passed unconsciously in bed; contained some morphological elements as in preceding case; agonizing nausea and obstinate constipation.

October 14th. Considerably worse; pulse so weak and quick as to be scarcely able to count; Temp. 97° F.; Resp. 33. Urine passed unconsciously and of same character as before; nausea continues; greater prostration; skin cool and clammy.

October 15th, 9 A. M. Prostration still greater; died about 2 o'clock P. M., being about forty-eight hours from time first taken. Post-mortem four hours after death; result is given further on.

Before giving the results of my own study as to the nature and pathology of the disease, let us briefly review the prevailing idea in regard thereto, then compare with my own and see wherein they differ and wherein the observations of others are corroborated.

The principal pathological lesion is in the liver, spleen and kidney, only such changes being found in other organs as would naturally

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occur from a radical derangement of these three. According to Prof. Jones,* these organs exhibit the same changes as are found in other forms of malarial disease. His post-mortem examinations reveal that the liver is enlarged, slate-colored exterior and deep bronze interior. Microscope revealed a number of dark, brownish red and black pigmentary particles, similar to those in other forms of malarial fever. In other cases the liver was a Spanish-brown color, and not of the deep slate exterior and bronze interior, characteristic of malaria. The pigment particles in these cases were present, but in less quantity, sometimes, also, oil globules in larger quantity than in a normal malarial liver. In the former class there was no deposit of yellow granular matter, the dark pigmentary deposits were most abundant in portal capillaries of hepatic lobuli; liver cells pale.

Spleen presented a purplish appearance and all the characteristics of a malarial spleen. In other cases the spleen contained fewer pigment particles than is found in bilious remittent fever.

The kidneys presented slate-colored spots on exterior and were greatly congested. Upon section, blood vessels to smallest capillaries were filled with coagulated blood, also altered blood globules and granular matter deeply colored with hæmatin; texture softer than normal. Many of the capsules of the Malpighian bodies filled with coagulated blood, blood corpuscles and deep red fibrous matter.

Pigmentation takes place in kidney also, but in some cases to a very limited extent.

The same authority finds the serum of the blood of golden yellow color, containing coloring matter of bile and biliary acids. The deep golden color of serum is caused by bile pigment and imparts the golden hue to skin and conjunctiva. Coagulum firm; separation between clots and serum perfect; clots floated in the golden colored serum. Under a magnifying power of 420 there was seen numerous dark granular masses, dark spherical bodies resembling spores and pigment cells from two to four times the size of white blood globules. Many of the colorless corpuscles contained numerous pigment particles.

1000 parts of blood contained:

Water	820.50
Dried blood corpuscles	56.47
Fibrin	4.50
Saline matter	7.18

Extractive matter of serum contains urea, coloring matter and biliary acids in larger quantity than normal blood. The relative number of red blood globules is diminished and liquor sanguinis increased. The quantity of fibrin is increased, indicating an inflammatory condition of this fluid as well as the kidney.

* "Medical and Surgical Memoirs."

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Urine contains in variable quantity urea, uric acid, phosphoric acid, sulphuric acid, chloride of sodium, and albumen, coloring matter of bile and of the blood, and biliary acids. Microscopically examined it was found to contain cast of tubuli uriniferi, stained orange yellow and reddish brown from coloring matter of bile and blood, masses of altered hematin, blood corpuscles variously altered in shape, and sometimes yellow granular matter.

My own observations have, besides the clinical features, included chemical and microscopical examinations of urine and vomited matter, post-mortem examination and microscopic examination of liver, spleen and kidney. They were made upon eight or ten cases, coinciding in every material particular with the typical cases detailed above. In some respects my investigation leads to results different from those farther South, but it will be seen in most essential characters they are the same.

Whether this difference in results is due to an actual difference in the disease in the two localities or whether the difference arises from my imperfections, I cannot say.

In all cases in which accurate records were kept and investigation carried out, the same pathological changes were noted, the only variation being as a rule in degree. I have met with no case in which there was hemorrhage from other parts than the kidney, except in a few cases where there was slight hemorrhage into cavity of stomach as evidenced by presence of blood in vomited matter. This was inconsiderable and did not attract much attention.

The vomited matter contained biliary acids, cholesterin, biliverdin, epithelia from mucosa of stomach and bile ducts, sometimes altered blood and a peculiar form of micro-organism, which will be more fully spoken of hereafter. Urine invariably contained epithelial and blood casts of straight and convoluted tubules, coloring matter of bile and blood, and epithelia from tubuli uriniferi, all colored yellow or brown. Sometimes, though rarely, there were a few red blood corpuscles; generally they were broken down and disintegrated, characteristic of the depressed vital state. It contains also salts of urea in variable quantities, uric acid, sometimes simple and triple phosphates, was generally acid, and specific gravity varied from 1012 to 1016.

Various forms of bacteria are seen in urine in an incredibly short time after it is passed. I have always found them when examined as soon as could convey urine to office for examination. I cannot say urine contains the bacteria when passed, for my examinations were never made under an hour after it was voided; at any rate, if not present when voided, and if these bacteria result from fermentative changes or decomposition, then these changes take place in urine in a very few minutes after passing from the body. Post-mortem examina-

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tion of Case IV, which corresponded in every essential clinical feature with other cases, was as follows:

Conjunctiva, lips, tongue and palm of hands deep golden yellow color; not much emaciated; well developed muscular system.

Thorax: lungs pale and anæmic, otherwise normal in all respects. Right ventricle distended with coagulum, otherwise appearance of heart was healthy. Abdomen: adipose tissue of abdominal walls colored deep yellow by coloring matter of bile; tissue softer and muscles redder than usual. Stomach contained a quantity of dark green matter; mucous membrane markedly injected, more noticeably near cardiac orifice; bilious matter mixed with a quantity of glairy, tenacious mucus. Liver slightly enlarged; upper and outer surface normal in appearance. When raised from its bed the whole under surface was a dark bronzed appearance, this bronzing breaking off abruptly at the inferior margin.

Upon section the lobules were pale and portal vessels brownish. Under microscope the epithelia of alveoli was seen to hold a dark brown, granular mass, some epithelia coarsely granular, nuclei concealed. Fat globules were noticed to a limited extent, but exact increment of oil not estimated; capillaries empty, but terminal portal vessels filled with altered blood. Throughout the structure the same peculiar-shaped micro-organism, noted in vomited matter previously, was seen. Gall-bladder distended with a quantity of dark green bile. Spleen somewhat enlarged, containing same dark brown, granular mass in splenic pulp, and also same form of bacteria noted in liver.

Kidney greatly congested, with dark bronzed, irregular shaped spots on exterior; under microscope tubuli uriniferi distended with epithelia; in some cases with blood casts or same granular mass seen in liver; Malpighian tufts enlarged, congested and in some places ruptured.

Specimens of liver and kidney were sent to Dr. C. Heitzman, New York, for a more complete microscopic examination. The following is from Dr. H.'s letter:

"Liver—portal vessels replete with blood, but no blood corpuscles are recognizable. In their stead there is a granular or lumpy dark brown mass so characteristic of dissolution of blood; capillaries of lobules are mostly empty; liver epithelia generally unchanged, finely granular and nucleated; near the border of the aveoli the epithelia are coarsely granular, their nuclei being concealed, and such epithelia hold a dark brown mass, coloring matter of the blood. Some epithelia also hold droplets of fat, but not in excess and not enough to call the liver markedly fatty.

"Both the intestinal connective tissue and capillaries hold peculiar wadlets of microbe, very similar to those of splenic fever in cattle, only a little more slender. In some places I have seen bunches of such bacilli arranged in shapes of leptothrix.

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"Kidney—tufts slightly enlarged, the nuclei of their capillaries considerably augmented. Interstitial connective tissue crowded with inflammatory corpuscles in the stage of granular protoplasm; convoluted and narrow tubules are either choked with a proliferating epithelium yielding a number of inflammatory corpuscles, or they contain plugs of the dark brown granular mass seen in portal vessels and blood casts. Many tubules have lost their epithelia to a narrow rim around the basement membrane, others contain detached epithelia and pus corpuscles.

"The kidney is in an acute croupous, hemorrhagic inflammation. The blood disorganized as is usual in septic æmia." He goes on to say: "There is no reasonable doubt in my mind that the disease is primary neither in liver nor kidney, but is an infectious disease, caused by some microbe, nearly identical with that of splenic fever in cattle, that kills human beings also in a very rapid manner."

It will be seen from this that Malarial Hæmaturia has a definite and settled pathology and that it is characterized by profound lesions of the kidney and the alteration and destruction of red blood globules. Jones has shown that this destruction takes place in the liver and spleen. The fact of a peculiar microbe appearing in these organs raises the question of the influence of the micro-organism upon such destruction and to the subsequent kidney lesions.

Without denying the fact, as maintained by others, that the pathological changes in kidney are brought about by the action of biliary acids in blood, and their selective irritant action on kidney or by this destruction of blood corpuscles and consequent pigmentation of various organs, our investigation forces the conclusion that some causative relation should be ascribed the rod-like microbe seen in liver and spleen. That this destruction of red blood globues does take place has been abundantly proven both by chemical analysis and by actual counting with micrometer and by appearance of coloring matter in urine. The deposit of pigment is derived from this destruction, the hæmo globulin being decomposed, the hæmatin set free, these pigment particles are transferred through the circulation and deposited in various organs, producing a train of symptoms peculiar to the organ affected. The facts point then to the existence of a specific poison in Malarial Hæmaturia. The exact nature of this poison, whether only a malarial element exists or not, will require future investigation to decide. It has been and is now considered only as one of the manifold exhibitions of malaria. Malaria is an indefinite term to express an undetermined entity behind which our professional shortcomings and inaccuracy of ideas has taken umbrage for generations.

That the malarial poison is a living germ has been a prevalent theory in medicine since the time of Lucretius, but the isolation and determination of the real nature of the germ is not yet accomplished, not-

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withstanding the investigations in recent years of such learned and distinguished microscopists as Mitchell and Saulisbury of our own country, of Belestra and Langi in Italy, Ecland in Sweden, and Klebs and Tomassi-Crudeli in Rome. While the results obtained by these observers differ as to the peculiar form of micro-organism which produce malaria, they strengthen the theory that such an organism does exist, and confirm the belief that future observers will discover the true bacillus malariæ as has been done in typhoid fever. phthisis and many other diseases. The results obtained by Klebs and Tomassi-Crudeli deserve most attention and may eventually prove a satisfactory solution of the difficulty. Their observations have been verified by Marchiafava and Cuboni, by Langi and Berito; all these observers claiming to have observed the identical spores and bacilli in blood of malarious fever as those seen by Klebs and Crudeli. Lavaran finds parasitic elements that exist only in malarious fevers and they disappear under administration of sulphate of quinia. They are the same as pigmented bodies known as melantic leucocytes. "It is a curved or cylindrical body, transparent with a pigment spot, sometimes motionless and sometimes active. The ultimate stage of development is a motionless spherical or irregular shaped body containing dark red, rounded, pigment grains." Much more might be written concerning the prevailing opinions in regard to the nature of malarial poison, but it would take us beyond the limits of this paper; suffice it to say, that the germ is almost in the bounds of the visible, and that it is a living pathogenic organism is certain. There are certain well known outward manifestations of its habitat within the system and which characterize the diseases of which it is the cause.

The primary pathological lesion when the malarial poison enters the system is in the blood itself, destruction of red globules, loss of saline constituents, the increase of coloring matter of serum and retention of coloring matter of bile. With an altered blood, primary functional disturbance will be produced in various organs, dependent on this alteration in supply of nutritive fluid; in fact, there will be marked perversion of physical, muscular and nervous force; secondarily, there are structural alterations in various organs. Without going into details, we will say that these structural changes do not differ materially from changes wrought by other morbid processes, but the distinguishing characteristic, that which gives malarial diseases a definite pathology, is the pigmentation and destruction of red blood globules, this being the result of the ravages of the malarial micro-organism. The outward manifestation of the existence of malarial poison in the system is, "Prevalence in certain sections at certain seasons, periodicity and regular succession of cold, hot and sweating stages."

With this digression, which was necessary to fully explain views expressed further on in regard to Malarial Hæmaturia, let us return to

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the consideration of this disease. The disease, in its various forms, as met with in this locality, is accurately portrayed in the four typical cases recorded in preceding pages. The clinical features of nearly all these cases were similar, and it is evident they were cases of Malarial Hæmaturia. It is a reasonable assumption that the pathological changes were the same and corresponded in every respect with Case IV, in which a post-mortem examination was held and accurate observations of histological characters made. Granting the propriety of this assumption, we are prepared to discuss the course of Malarial Hæmaturia as derived from observations on these four cases, or not granting it, we take only one and base our opinions on that, mindful of the fact that a single investigation does not prove absolutely anything in scientific research, but it must be some evidence, however little, to be used in the induction system of reasoning by which scientific accuracy is attained.

From what has preceded in regard to the general character of malarial diseases and special characteristics of Malarial Hæmaturia, we are forced to one of the following conclusions as to primary cause, viz :

I. Malarial Hæmaturia is is not of malarial origin.

II. If of malarial origin, there exists in addition to malarial microorganisms another of very different character and with different outward manifestation of its existence; or

III. Malarial Hæmaturia is of malarial origin alone, and microorganism seen in Case IV was the bacillus malariæ of Klebs, Crudeli, Marchiafava and others.

Little doubt can be entertained from investigations that have preceded, that conclusion I is erroneous, unless it is assumed that the baccillus observed in Case IV is primarily and solely the causative element of the disease, and by its life acts all the ravages of the disease are produced. While this may be so, we are not prepared to prove it. That conclusion II is true is decidedly more probable, that is, that besides the general pathological characteristics of malaria, the disease presents others not seen in normal malarial diseases, and if malaria exists at all as a causative element, there is another of entirely different nature. There is a decided preponderance of evidence in all preceding investigations in favor of malarial origin. Its mode of onset, its occurrence in certain localities at certain seasons generally, and the results of study of pathological changes all point to the fact that malaria exerts some causative influence. My own investigation discloses some discrepancies in the deportment of Malarial Hæmaturia and what may be called normal malarial diseases. These discrepancies, as noted in cases occurring in this locality, are principally in lack of periodicity and that clock-like regularity in the rise and fall of temperature, and the season of the year in which it occurs, and the appearance of a peculiar microbe not seen in malarial diseases. Cases are met with in

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all seasons, more often in the Fall, but in Summer and Winter as well, and in localities in which other malarial diseases are not prevalent to a great extent. When the disease once commences, as evidenced by jaundice, great depression, black urine and nausea, there is a continuance of these symptoms until convalescence or death; no intermission or remission and return at stated intervals. After convalescence in exceptional cases, death occurs suddenly, without return of characteristic rigors. Either death results or convalescence commences in from two to ten days. In all my cases, a notable feature was low temperature and rapid, feeble pulse; in cases of other physicians in this section I have heard of the temperature reaching 105° F. on first or second day, but after that there was the low temperature as in my cases. In no case has the temperature ranged higher than 102° F., and this was following reaction from the first chill. The low temperature is a symptom almost pathognomonic, and should be looked for as much so as dark urine and jaundice. There is never, in cases here, a regular or periodic variation in temperature. The alkaloids of cinchona fail to exert the slightest influence over the disease in a great many cases, even when given early and by mouth, rectum, endermically and hypodermically. From this it will be seen that discrepancies do exist, and these discrepancies being a constant accompaniment of Malarial Hæmaturia in this section, there must be a constant and common cause of different nature and different attributes to the malarial poison, at the same time we recognize in pathological changes and in some clinical features the characteristics of malaria. We are then forced to admit two elements of causation, viz: The malarial bacillus and another different from any yet found in malarial diseases, and to strongly suspect a characteristic micro-organism of the diserse. It is reasonable to ascribe the variations in the conduct of ordinary malarial diseases and Malarial Hæmaturia to the presence of this bacilus so like the Anthrax bacillus. It cannot be that its greater severity is due to a larger amount of poison taken into the system, for upon post-mortem examination in many cases, the characteristics of malaria are not so conspicuous as it is in mild forms of malarial fever, when death occurs from some intercurrent malady, the malarial infection itself not being sufficient to cause death.

The bacillus observed in liver and spleen differs in essential parts from that described by Lavaran or Klebs and Crudeli, and destroys at once the idea that it is the bacillus malariæ. That such a combination of causative agents exist as we maintain does in Malarial Hæmaturia, is further substantiated by the fact that in many hot climates, as Egypt, Mauritus and Cape of Good Hope. a disease is met with, having many of the characteristics of the one in question, in which is found a microbe, the bilharzia hæmatoba. The presence of this microbe is always accompanied by dark urine containing altered blood, or a

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decided hemorrhage from the kidney. In malarial diseases in these countries, without the bilharzia, the kidney affection is not exhibited. It may be that the microbe observed in my case serves the same purpose here that the bilharzia does in those climates; the effect on the system is similar in many particulars. When the bacillus anthracis, to which the one observed in Malarial Hæmaturia seem so nearly allied, finds a habitat in the system, it produces many of the same symptoms as noted in the latter disease, such as vomiting, constipation, rigors, headache, extreme prostration, and usually speedy collapse. Temperature is usually very little elevaed, if at all; death occurs in forty-eight to sixty hours generally; it may be more rapid or delayed five or six days; no periodicity marks the disease. The only points of outward difference are the black urine and jaundice in Malarial Hæmaturia. It is reasonable to assume a certain relationship between the microbe of Malarial Hæmaturia and Anthrax, but they are not identical, and the deviations of the former from normal malarial diseases can be ascribed to the presence of this microbe, its effect being very much the same as the bilharzia in hot climates, although it differs from the bilharzia in outward appearance, as much as it does from malarial micro-organism as described by Lavaran and others. Future investigations, we think, will justify the conclusion that this bacillus is an essential element of causation of Malarial Hæmaturia, and that without its presence malarial diseases will exhibit the ordinary phenomena of Intermittents or Remittents, but with it, those of Malarial Hæmaturia. Our investigations prove this, but they are not sufficient to consider it an established scientific fact; all that we can hope to be accomplished by it is the direction of the attention of others to the results obtained, that the investigation may be further prosecuted.

As to treatment, I have very little that is new or original to offer, yet a few practical hints may be obtained from my experience. Our efforts should be directed to sustaining the rapidly failing vital force, and counteracting the effect of the poison, by cinchona alkaloids, the prevention, if possible, of suppression of urine, and the elimination of poison already in the blood.

In the beginning a brisk cathartic, either vegetable or mineral, should be administered; one preferable to any other is a combination of podophyllin, aloin and extract of belladonna, or calomel may be given alone or in combination with rhubarb. Great difficulty will be met with here in producing free catharsis on account of the irritable stomach and the rejection of all remedies administered for the purpose. If you can do no better, give enema containing castor oil and warm water. At the same time that efforts are directed toward moving the bowels, quinia in some form should be administered, and as the exces-

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sive irritability of the stomach will prevent its administration by that way, it will not do to attempt it, but commence at once with other means; above all other methods, the hypodermic is to be preferred, and a solution of bi-sulphate or hydrobromate of quinia used by this method. It is a useless waste of time to wait and see if the stomach will not get quiet; commence at once the use of the hypodermic method, and to the aqueous solution of bi-sulphate it is advantageous to add a few minims of pure carbolic acid. Five grains of bi-sulphate should be thus given every three or four hours, until twenty-five or thirty grains are administered. If improvement takes place this is gradually diminished; if not, it should be continued. When it is not practicable to use the hypodermic method, quinia may be administered by rectum in suppositories or solution, or may be used by inunction; but no method is so reliable as the hypodermic. Careful alimentation is necessary but almost impossible on account of irritability of the stomach; here, too, hypodermics of beef, milk, cod-liver oil, etc., may be used to advantage, and likewise rectal alimentation practiced according to orthodox methods. To relieve the irritable stomach and introduce food and medicine by the natural channel would be a great advantage gained; sometimes this can be accomplished, but oftener it cannot. While not relying on the stomach, efforts should be directed toward relieving the agonizing nausea by application of sinapisms over epigastrium and internal administration of oxalate of cerium and bismuth sub-nitrate, and such other remedies as are generally used for such purposes; the remedy above all others to be relied upon to relieve the nausea is a solution of hydro-chlorate of cocaine; this sometimes acts like a charm, relieving at once the troublesome symptom, but like all other remedies, it sometimes fails; it should always be tried. It is well, however, even if the stomach does become retentive, to continue the administration of quinia hypodermically and burden the organ only with the necessary nourishment or stimulant; the latter it is necessary to use in all cases and use freely, but with judgment; iced champagne, milk punch and egg-nog are preferable. When it is possible to administer medicine by mouth digitalis infusion in one to two tablespoonsful dose is indicated for the double purpose of sustaining the weak heart and for its diuretic effect. It may be combided with aromatic spirits of ammonia or alkaline diuretics. The lumbar region should be rubbed repeatedly with spirits turpentine and every effort made to overcome the tendency on the part of the kidneys to strike work. No remedy is equal to twenty or thirty grains of calomel for this purpose. Morphia and atropia in combination should be administered as occasion requires to procure sleep and relieve pain, and the tendency to constipation overcome by continued administration of cathartics. As soon as the urine clears up and convalescence is ushered in, a general tonic treatment should commence, continuing the admin-

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istration of quinia in tonic doses for several weeks. After this such remedies are indicated as is usual in recovery from acute diseases and which it unnecessary to mention. I must call special attention to the use of cocaine in this disease. I have often seen it have the happiest effect in relieving nausea, stimulating the kidneys to increased activity and causing an increase in force of the heart's action. It has frequently happened that improvement commenced from the first dose of cocaine. It should be given in solution, using ten or fifteen minims of 4 per cent. solution, repeating every few hours until the desired effect is obtained.

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SELECTED PAPERS.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

Second Annual Meeting, held at Washington, June 2d and 3d, 1887.

Dr. H. C. Wood, of Philadelphia, opened a discussion on

THE ANTIPYRETIC TREATMENT OF FEVER.

In order to make the matter as brief as possible, he had prepared certain propositions which he would state, and then give what he thought to be the proof of their correctness. The *first* proposition was, "Fever is a disturbance of calorification in which, through the influence of the nervous system, heat dissipation and heat production are both affected. If there be a fever which is produced by the direct action of a poison, independently of the nervous system, we have at present no proof of its existence."

If an animal's temperature rises there must be a certain number of heat units used in producing that rise. If the temperature falls, there must be a corresponding lessened production of heat. In his experiments the agent used to produce the fever has been the pyogenic principle found in ordinary commercial pepsin. After the substance has been introduced the animal is put into a calorimeter. The animals used in the experiments have been dogs. In the normal animal heat production and heat dissipation are correlated functions. When the poison is injected it is found that heat dissipation increases at the time that heat production is diminishing, so that the fall of temperature was in part the result of heat dissipation and in part the result of diminished heat production. It is impossible that there should be this wide disturbance of these two functions simultaneously, unless the poison which produces the fever acted upon some one central organ, and that must be the nervous system. McCallister, of London, while believing that fever is often produced through the nervous system, thinks that at times it may be produced by widespread tissue change caused directly by the poison, his reasoning being that in the advanced stage of fever the temperature is higher than at the beginning. He says that the time when the poison is at its maximum does not cor-

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respond to the time when the fever is at its maximum. The objection to this argument is that we do not know that the poison of the disease is the direct cause of the fever. The poison which causes the disease in scarlet fever, etc, is probably not the poison which causes the fever. The latter is probably generated in the system.

Second. "Heat production is regulated by a nervous apparatus, our knowledge of which is imperfect. There is certainly an inhibitory centre which depresses or controls the production of heat. It probably does this by acting upon the trophic cells of the gray matter of the spinal cord. It is possible, also, that there is a centre which, when excited, increases tissue change, but its existence has not yet been proven." The speaker then gave a resumé of the experiments which he had performed, which, in his opinion, proved the truth of the above proposition.

Third. "Heat dissipation is regulated through the vasomotor system, so that vasomotor paralysis is followed by an enormous loss of animal heat, and under unfavorable circumstances by death from cold." If section of the cord is made in such a way as to get vasomotor paralysis without destruction of the respiratory centres, the heat dissipation rises enormously. If the animal is kept in a temperature of 50° or 60°, it dies in a few hours of progressive loss of heat. If kept in a warm chamber, it lives for days. The cause of the rapid heat dissipation is the opening of the blood-vessels of the surface of the body.

When these remarks are applied to a study of antipyretics, it is seen that drugs may lower bodily temperature in health or in fever by increasing heat dissipation. In this way act all agencies which cause vasomotor paralysis. Antipyretics acting in this way may be called false antipyretics. Then it is conceivable that there may be drugs which act on heat production through the inhibitory nerve apparatus, of which mention has been made. Such drugs may for convenience be called true antipyretics. Aconite, veratrum viride and drugs of that class belong to the false antipyretics. Whether or not there are any true antipyretics has until recently been a question which we have been unable to answer. With regard to antipyrin, certain experiments made in the University of Pennsylvania seem to give some positive results. Care must be exercised in these experiments not to confound a normal defervescence with the action of the drug administered. In the dog the use of anti-

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pyrin diminishes both heat production and heat dissipation, the former being diminished more than the latter. It is probable that heat production is primarily affected. The question arises whether this result be due to an effect on the circulation. He has found that antipyrin has no effect upon the circulation. The blood-pressure was uninfluenced by its administration. He therefore concluded that the action of antipyrin upon the bodily heat was entirely independent of any action upon the circulation, and the probabilities are, of course, that it acts through the nervous system. Beyond this our present knowledge does not extend.

Dr. Francis Minot, of Boston, then presented some remarks on

THE TREATMENT OF TYPHOID FEVER BY ANTIPYRIN AND THALLIN,

based on the observation of twenty-four cases treated in the Massachusetts General Hospital, the object of the study being to ascertain the proper dose of the drugs, their general and specific effects upon the patients, the results from their continued use as compared with those from their occasional employment, any unfavorable results, and the general effect of antipyrin and thallin upon the course of the disease.

The following conclusions were reached: 1. Both antipyrin and thallin have a remarkable power of reducing the temperature in typhoid fever. 2. In no case was the use of these refrigerants apparently followed by any unfavorable effect upon the course of the disease. 3. The general condition of the patient was more comfortable after taking antipyrin and thallin, which were often followed by sleep. 4. The refrigerant medication by antipyrin and thallin appears to have no specific or decided effect upon the course or issue of typhoid fever. It often contributes much to the patient's comfort, perhaps indirectly promotes his safety. 5. The effect of antipyrin and thallin in promptly lowering the temperature, shows that the danger in typhoid fever does not consist in high temperature alone, and that the latter is rather an index of the violence of the abnormal condition which we call fever, though perhaps adding somewhat to the danger. 6. By the internal use of antipyrin and thallin all the effects which are claimed for the treatment of typhoid fever by the cold bath are readily obtained without the trouble and inconvenience of the latter method, and without exposing the patient

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to the dangers of exhaustion and shock consequent on the fatigue of removal from bed. 7. These remedies may be given without danger to the youngest patients in suitable doses; and, indeed, their beneficial effects are more decided and the unfavorable consequences are less observable than with adults.

Dr. Atkinson, of Baltimore, said that so far as the temperature reducing power of these agents is concerned, there can be no question that we are coming more and more to realize that elevation of temperature is far from being all there is in pyrexia. As regards the relative merits of thallin, antipyrin and antifebrin, the tendency to chilling after the use of thallin is decidedly greater than after the use of antipyrin, while the latter is more apt to produce nausea and vomiting. He was disposed to disagree with the statement that the use of these drugs can take the place of the external application of cold water. It has recently been reported that one observer abroad had treated two hundred cases in private practice by the use of baths with a mortality of nothing, in army hospitals he has had a mortality of five per cent., and in ordinary hospital practice a mortality of less than eight per cent. Although with antipyretics we can reduce the temperature at pleasure, yet the duration of the case is not lessened, and in some cases it has been thought to be prolonged.

Dr. Wood remarked that we must not look upon the use of cold water as acting merely by the abstraction of heat. Its action is more than this. It probably exerts some influence through the superficial nerves.

Dr. George L. Peabody, of New York, had found that a certain proportion of cases which does not bear the cold bath will bear the use of antipyretic drugs, while, on the other hand, the bath may be used in a certain number of cases in which antipyretics cannot be applied. From clinical experience he was convinced of the truth of the statement of Dr. Wood, that the cold bath accomplishes more than the simple reduction of temperature. Its soothing effect upon the nervous system is greater than that accomplished by the reduction of temperature by antipyretic drugs. He believed that in many instances the course of the disease is favorably modified by the use of the cold bath. Another important matter is that since the introduction of these methods of antipyresis, the number of relapses seems to be greater and more fatal. He differed from Dr.

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Wood on the point that antipyrin acts solely by diminishing heat production, and that it does not increase heat dissipation. It seemed to him that the increase of heat irradiation from the surface is very great, not only where it produces sweating, but also where it does not.

Dr. W. H. Welch, of Baltimore, said that it was a question how far rise in temperature is an important element in fever, and an element which calls for interference on the part of the physician. There is comparatively little evidence that the grave symptoms of fever are referable to the elevation of temperature. There is no doubt that temperatures of 110° to 113° produce serious symptoms, but whether or not ordinary temperatures of 105° to 107° exert any serious action on the body, is a question which is certainly unsettled. It has been shown that rabbits can be kept in a box with a continuous rectal temperature of 107° for at least two weeks, provided the precaution is taken to keep the box well ventilated and the animals supplied with moist food. Patients may have a perfectly clear brain and no grave symptoms, with a temperature of 106° or 107°. On the other hand, there are severe and fatal cases of typhoid fever in which the temperature has never registered a great height. While in most cases there is a certain proportion between the height of the temperature and the severity of the disease, yet there are certain cases in which this proportion does not exist.

Dr. William Pepper, of Philadelphia, had been disposed, from his experience, to think that antipyrin and antifebrin are superior to thallin. Between the two former he had not noticed any marked difference. He had used both largely in a variety of cases, and had not seen any of the dangerous symptoms which have been mentioned by some writers. The action of these drugs seems to be purely through the nervous system. He had seen no effect upon the circulation, upon the respiration, or upon the secretions, save that of the skin. Some of his observations have been of interest with reference to the relative value of the external use of cold water and the internal use of antipyretics. In the sudden acute pneumonias of children with a temperature of 106° or 107°, with initial convulsions, where the prompt and repeated use of cold baths has been without gratifying results, full doses of either of these antipyretics have produced a remarkably successful effect. In a recent case in

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a child with double croupous pneumonia involving two-thirds of the left lung and one-third of the right lung, with a temperature in the rectum of 107°, and with repeated convulsions, cold baths failed to relieve the symptoms, although repeated at intervals of three hours. Antipyrin in repeated doses controlled the pyrexia at the beginning and on several occasions during the course of the disease, and after a severe struggle the child recovered. As to the ability of these agents to replace cold baths under all circumstances the evidence is not adequate. In the sudden hyperpyrexia occurring in the course of rheumatism he was not prepared to accept the view that these drugs are capable of replacing the cold bath. In these cases we have direct evidence that the high temperature is the direct cause of the symptoms, at least of the severe nervous symptoms. He was not one of those who consider high temperature in itself a dangerous symptom. There is no proof that high temperature, provided that it has not induced secondary changes, should be regarded other than as one symptom of the disease. He had had many patients with typhoid fever with a temperature of from 103° to 105°, who had done perfectly well without any measures directed to the reduction of the fever. We, however, meet with cases in which these temperatures are attended with certain symptoms for which there is apparently no other cause. In such cases we must consider that the hyperpyrexia calls for treatment. He had noticed the effect, to which attention has been called, that is, the deep and tranquil sleep which follows the administration of these antipyretics.

Dr. George C. Shattuck, of Boston, had used both antipyrin and antifebrin largely, and he thought that antifebrin offered all the advantages of antipyrin without its disadvantages. It has none of the disadvantages which belong to thallin. Three or four grains of antifebrin accomplish the same results as are produced by a larger dose of the other drugs. The disagreeable symptoms which some writers have referred to as following antipyrin are probably due to the fact that they follow the original recommendation and give 30 grains of the drug. The same benefit can often be obtained from 15 grains and often from 7 grains. With reference to the point suggested by Dr. Welch, he said that whether pyrexia is or is not a dangerous feature of the disease, we find clinically that where a patient has high fever, is irritable, impatient and uncomfortable, the administration of one of these antipyretics, or the external use of

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cold water, produces a tranquil and refreshing sleep, and the patient awakes in a condition much better to continue the struggle with the disease.

Dr. J. C. Wilson, of Philadelphia, agreed with other speakers that antifebrin has many advantages over thallin, particularly in its cheapness and in the smallness of the dose. A recent observation which he had made is interesting as bearing on the question of heat dissipation. He had been treating a case of typhoid fever in which, from time to time, antifebrin in five-grain doses was given. These were repeated whenever the temperature reached 104° F. This caused copious sweating, with the usual reduction of temperature, amounting to three and a half or four degrees. On the last occasion one ninety-sixth of a grain of sulphate of atropia was given with the antifebrin. No sweating occurred, and the temperature was reduced only one and one-half degrees.

Dr. James T. Whittaker, of Cincinnati, differed from the gentlemen who seem to accept the view that fever is a neurosis. He thought that there is no proof that the nerve-centres are distinctly irritated, and we have no proof that the agents which reduce fever act directly on the nervous centres. Is it not more probable, he asked, that the antipyretic action is really an antimicrobic action? We have some observations which go to show that the disease is caused by bacteria, or if not directly by bacteria by some of their products, the ptomaines. Would it not be more rational to study the habits of these bacteria and address ourselves rather to the removal of the cause than to the counteracting of the effects?

Dr. H. M. Lyman, of Chicago, said that with regard to antifebrin and antipyrin his experience has been that of previous speakers, and his preference is for the former drug. He was disposed to regard their great value as proceeding not so much from their power to reduce temperature as from their general effect, especially upon the nervous system. He regards them as valuable adjuvants in the treatment of disease, largely from their hypnotic and tranquillizing effect upon the nervous system, to which allusion has already been made. He has observed that in many instances where, in abrupt febrile affections, relief has not been secured from antifebrin and and antipyrin, this failure is frequently due to the presence of the condition we call rheumatic, and there salicylic acid gives the relief that we fail to get with the antipyretics.

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Dr. John Guitéras, of Charleston, had some experience with these drugs in the treatment of the continued fevers of warm climates, but here the results have been rather negative, and have showed the advantage of stopping their use after they have been continued for a certain length of time. He had been called in consultation where the drug had been continued for ten or fifteen days, each time that it was given producing a certain reduction of the temperature, but having no permanent benefit, and the patients have begun to improve so soon as the drug was stopped. It has seemed that when given continuously in this way these antipyretics have an effect on the vasomotor system. The pulse is weak and dicrotic, and he considers it advisable to give digitalis. The effect of cold-water baths in these continued fevers of the South seems more beneficial. If continued for two or three days, they often favorably modify the course of the disease.

Dr. Peabody, of New York, said with reference to the point suggested by Dr. Whittaker, that there was no question in his mind that a considerable proportion of cases of typhoid fever can be aborted by antiseptic treatment of the intestinal ulcers with naphthaline or resorcine. For the past two years he has treated all cases coming under observation during the first ten days of the disease with a calomel purge (ten grains), followed by naphthaline in such doses that at least seventy or eighty grains are taken during the twenty four hours. Under this treatment he had without doubt succeeded in aborting many cases in which the symptoms were quite pronounced. He has not succeeded in cases coming under observation at the end of the second week.

Dr. H. C. Wood, with regard to the dissipation of heat by sweating, stated that in the dog, on which the experiments were made, there are but few sweat-glands; there are a few in the paws and about the mouth, so that there could be no heat dissipation from this cause. Sweating in man does undoubtedly cause a dissipation of heat. With reference to the possible influence of antipyrin on fever, through some action on the bacteria causing the fever, he said that in the experiments to which he had referred no microbes were concerned in the production of the fever, which was induced by the pyogenic principle of pepsin.

Dr. James Tyson, of Philadelphia, reported a recent case of

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rheumatism in which the temperature suddenly went up to 105°, with alarming brain symptoms. Antifebrin in five-grain doses failed to produce any effect. The patient was then put into a cold bath, and the temperature of the water gradually reduced to 72°. The discomfort experienced by the patient then prompted his removal from the bath. The thermometer in the rectum showed a reduction of only one-half of a degree, but within the course of half an hour the temperature fell three degrees. He scarcely thought that this was a natural defervescence, but must attribute it to the effect of the bath. The fall in temperature was followed by a disappearance of all the symptoms and the recovery of the patient. While he had never seen any serious results from the use of thallin and antipyrin, yet there have been symptoms which caused much alarm to the attendants. He had not seen such symptoms follow the use of antifebrin.

Dr. R. P. Howard emphasized the fact that internal antipyretics and the cold bath are not equivalents, they are substitutes and important auxiliaries to the physician. These measures relieve special symptoms, but whether or not they shorten the duration of the disease, is a question not yet settled. Another important point is with reference to relapse in typhoid fever. This is a subject which requires investigation. He thought that every relapse, so-called, is due to the absorption of fresh poison. It is really a fresh attack, an initial attack which runs a severe course, and often proves fatal.—*Medical News.*

THE FINANCIAL VALUE OF SANITARY SCIENCE.

The "Financial Value of Sanitary Science" formed the text for an able address given by that veteran worker in sanitary science Mr. Edwin Chadwick, at the annual meeting of the Association of Public Sanitary Inspectors last week, and no man probably ever had more qualifications for the task, or could speak from such experience and with great authority as this esteemed President of the Association of Public Inspectors. As complimentary to the recent Parliamentary Budget, he submitted by way of example for the "health of nations" the financial value of properly qualified sanitary science.

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First referring to the amounts of money charged upon the community arising from the excessive sickness and mortality which had been proved to be preventable by sound sanitation, he said some approach might be made to estimate the amount of those charges from the ascertained incomes of the life-insurance companies, which perhaps did not comprise more than two-thirds of the population. There were some ninety-three of these companies, comprising almost exclusively middle-class persons, of which companies the annual income was stated to be £23,000,000. There were also the great friendly societies of all sorts, whose aggregate insurance charges, as stated upon the authority of Sir James Paget, were £25,000,000 annually; the two yielded a total of £48,000,000 annually, three times the amount of poor rates. And if they could ascertain the full number of the uninsured, he expected that the whole number would double the total Budget for both the army and the navy, which was stated to be £32,000,000. Thus they had an annual invasion of an enemy, in the form of preventable disease, which every year fought and won a battle against the community, and every year slew in the United Kingdom upwards of 100,000 of the people beyond the present reduced death-rate, all of whom they knew and had proved might have been saved by more efficient sanitation, and at a saving of double the annual cost of the naval and military defences. Of the loss for the killed and wounded—that was to say, for 100,000 deaths of the wage-classes—for every death of an adult there were found to be twenty cases of painful sickness and of disablement and loss of work. The total estimated pecuniary loss for the killed and wounded in civil life might be estimated as exceeding by two-thirds the estimates voted by Parliament for the governmental expenditure of the empire. Even in this metropolis, said Mr. Chadwick, the lowest death-rate place of any capital of the chief States of Europe, or of New York, or of any other great city in the United States, we have shown by what had been done by partial application of sanitary defences, there were upwards of 20,000 killed and wounded annually, which efficient sanitary defences might have saved. All this excessive loss of life as well as of money, when examined, would be found to be due to wastefulness in legislation and administration. The only effective preventive would be found to be in the superior economy of tested and corrected sanitary science. In the metropolis the executive

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functions were generally carried out under inadequate instructions as to the qualifications required, and without securities that those instructions were duly applied for the protection of the public. In their ill-informed or uninformed condition these local bodies, the vestries, were generally positively unaware of the need of the undivided attention required for sanitary service, and they gave such low salaries as often to leave the chief local health-officers under the necessity of making up their income by private practice—that was to say, curative practice—the difference between curative practice and preventive practice in the new science of sanitation not being perceived by them. A revision and consolidation of preventive functions, now scattered over different and weak departments, and systematised under one department and under unity, with an executive board under the supervision of a Minister of Health, would be found on examination to be necessary for the pecuniary relief of the population from the greatest and most grievous of its burdens, as well as for the advancement of its health and strength and the happiness of its existence. It was due to state that, with all the shortcomings of defective local administration, the advances made in sanitary improvements during the reign of Her Majesty had been greater than in any country in any of the great States.

In France they had only got a centralization against the people chiefly for military levies, and they were now only making slow progress with centralization for the people in their places of work, for the protection of the people in their habitations, and for their protection against tyranny in the productive freedom of service. In France the death-rate was 3 in the 1,000 more than in England, which meant that there was a preventable slaughter there of 112,000 lives more than there was now in England. In Germany the mortality of the army was the lowest in Europe, and there was much to say in the way of example of the economies wrought by it; but under the municipal government the death-rate of the civil population in Germany was very high; it was 6 in the 1,000 higher than in England, which meant a sacrifice of 135,000 more than were now annually sacrificed in this country. In Italy the death-rate was 8 in the 1,000 higher, which implied a sacrifice of 224,000 lives to the wastefulness of ignorance there. In Austria the devastation was still greater even than that; it was no less than 11 in the 1,000 above our death-rate, which occasioned a loss in that empire of

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upwards of 400,000 more than the present rate in England and Wales. But the death-rate of the army in Russia was three times greater than of the army in Germany; and the death-rate of the civil population, as described by the Registrar-General of France, was still more terrible. To an international arbitration a decisive case could be made out against the extension of such bad government over any population. These were examples of the wastefulness of ignorance and sloth against the economies of well-applied sanitary science. In the United Kingdom the mean duration of life had been advanced during the reign of Her Majesty from thirty to thirty-eight years, leaving a further equivalent advance dependent on the advance of a more economical sanitary organization of paid service.

In concluding his able address Mr. Chadwick asked his hearers to accept it as true from one who had seen eighty-six summers that theirs was as good a work as the sun ever shone upon; and that, long before another eighty-six summers should have passed away, it would be recognized as work which deserved the fullest recognition and the most liberal reward, if it were carried out—as he was sure it would be—in the spirit as in the letter, faithfully, vigorously, hopefully, manfully.—*British Medical Journal.*

DR. SENN'S OBSERVATIONS ON LISTER, PAGET AND THE MUSEUM OF THE COLLEGE OF SURGEONS.

* * * * * * * *

With such reflections I left this hospital and turned my way towards King's College Hospital, where I was to meet the father of antiseptic surgery. I was full of anticipations of what I should see and learn at the feet of the man whose teachings had revolutionized the practice of surgery throughout the entire civilized world. How great my disappointment! A walk thr ugh the wards of Sir Joseph Lister soon convinced me that prosperity and honors, even if well deserved, only too often exert an injurious effect upon the scientific career of distinguished professional men. Sir Joseph Lister of to-day is only the shadow of Mr. Joseph Lister of 1876. The dressings which I was

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shown only corroborate this statement. The only thing that was new to me in the way of dressing wounds was the colored gauze, which is used to distinguish it from gauze not rendered aseptic. Great importance is placed upon the disappearance of color on the surface of the gauze, as an indication that the secretions from the wound have reached the surface, an occurrence which is looked upon as a necessity for a change of dressing. A number of lumbar abscesses were shown which had been simply incised and drained, and where the whole dressing was composed of a very thin and small compress of gauze and a layer of absorbent cotton still smaller than the gauze compress. The tension suture, which has been in general use for more than ten years, was shown and explained as though the hearers had never seen or heard of such a thing.

The German command, *Fort mit dem Spray!* has been obeyed here. The antiseptic solution in use is a combination of corrosive sublimate and muriate of ammonia, which is preferred to the simple solution of sublimate. I am firmly convinced of the fact that had Mr. Lister remained as such in Edinburgh, the scene of his former active life, his scientific existence would not have terminated so abruptly, and many additional discoveries and improvements would have been inscribed upon his tablet of fame. Although his scientific career ended with his change of residence to London, Sir Joseph Lister must be considered as the greatest of living surgeons. The seed that he has sown has brought fruit which has been the means of saving thousands of lives. The principles of antiseptic surgery as taught by him have found the most fertile soil in Germany, where the treatment of wounds has been simplified and improved to such a degree of perfection that primary union is the rule, and the dreaded complications, septicæmia and pyæmia, are almost unknown. Indeed, it must be a great source of satisfaction for Sir Joseph Lister to know that the method of practice he promulgated so strenuously for nearly a decade has been perfected by the most prominent surgeons on the Continent, and that through it the principles and practice of surgery have undergone a complete revolution. It is not my intention to abstract from the greatness of Lister, but I cannot but deplore that for nearly ten years he has been but little else than a spectator in the arena of the surgical world.

Among the most pleasant and profitable hours spent in London I must include a visit to Sir James Paget. Around the breakfast-table

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we discussed for nearly two hours matters pertaining to surgical interests on both Continents. Any one who has had the pleasure of a personal acquaintance with this gentleman will not wonder any longer why he has by universal consent been the leader among medical men, not only in his own country, but almost the entire world, for nearly half a century. It would be difficult to find a man possessed of so many admirable qualities in the same degree which fit him for such a position. A ripe scholar, a clear writer, a model teacher, a successful surgeon, an eloquent speaker, a perfect gentlemen, are happy combinations but seldom found in the same person.

He resigned his hospital positions twelve years ago, and is now devoting his whole time to consultation practice and scientific studies. He is inclined to the belief that antiseptic surgery will eventually mean surgical cleanliness. Although advanced in years, his interest in the welfare of his profession remains unabated, and his habits of industry unchanged. He not only reads the literature pertaining to surgery from every possible source, but is likewise perfectly familiar with the recent advancements in the collateral sciences. Through his kindness I found ready entrance into the museums, hospitals and educational institutions of London.

* * * * * * * *

Nearly a whole day I spent in the Museum of the College of Surgeons, under the kind guidance of Professor Stewart, a distinguished scholar and scientist. By stipulation a number of lectures must be delivered in this institution annually. The present course is given by Prof. Stewart, "On the Comparative Anatomy of the Internal Ear." I had an opportunity to examine the specimens used for illustrating these lectures. and it is safe to claim that no second collection of this kind could be found. A large and valuable library is accessible to all of the members of the College. The Museum contains John Hunter's collection. With this enormous collection as a nucleus, and the liberal donations which have been made by the Fellows and members since its foundation, this museum outranks anything of its kind in the amount of material it contains and the way in which it is classified. The specimens are so arranged that any subject in anatomy, physiology and pathology can be looked up and studied in a remarkably short time with the aid of a complete index, which can be found in its proper place in each section. Almost every subject is illustrated by botanical specimens and specimens of animals, from the lowest to the

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highest form. Under the head of monstrosities I examined a specimen of a fœtus in fœtu. The fœtus is perfect in every respect, and is surrounded by a thick and dense cyst. The indefatigable energy and great genius of the illustrious founder of this wonderful collection become apparent by the many labels which are marked with his name.—*Journal of the American Medical Association.*

INDICATIONS FOR THE USE OF NITRO-GLYCERINE.

Dr. Trussewitsch, in an instructive paper on the use of nitro-glycerine published in the *St. Petersburger Medicinische Wochenschrift*, and reproduced in summary in the *Lancet*, February 19th, points out that the value of this drug in various affections—angina pectoris, migraine and neuralgia (which he describes as angioneuroses), as also in sea-sickness, some forms of anæmia, faintness, palpitation and other diseases—depends upon the existence of an irregular distribution of blood, which condition may be inferred from a certain degree of pallor of the skin, especially of the face, often coexistent with a weak pulse and a small, rigid, radical artery, which frequently is situated at some depth. When, on the other hand, headache and neuralgia occur in patients with chronic congestion of the subcutaneous veins of the face, nitro-glycerine is to be avoided; and similarly it is of no use in asthma, when the face is reddened in consequence of emphysema. If, however, a pale face exists with angina pectoris, migraine, giddiness, shock, toothache or sea-sickness, the best results may be looked for by giving nitro-glycerine The regulating effect of the drug exercises an influence over the congestion of internal organs similar to that brought about by blood-letting; and in these congestions, whether of lung, brain or kidney, when they are of a temporary character, the pulse is generally found to be slow and of low tension—a fact which, as the author remarks, is sufficiently well known in reference to the fever-free periods of acute hyperæmia of the lung and kidney. Dr. Trussewitsch lays down as a rule that the condition of the pulse is the best indication for the employment of the nitro-glycerine, and the most trustworthy guide as to the dose with which to commence the treatment. The smaller the radical artery is, the more rapidly it dilates

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under the action of the drug, and the less the secondary effects produced; on the other hand, the fuller the pulse with a distended radial artery, the less it is affected; and finally, the softer the artery, with a weak pulse, the greater the secondary, and the less the general effects. Single-drop doses of the one per cent. solution are sufficient in cases of small pulse, but with a full pulse it will be found that the full effects cannot be produced with less than two-drop doses. When there is a soft artery with a weak pulse, subnormal doses only should be given—a quarter to half a drop. After the trial dose is given, the patient's sensations of pulsation and pain in the head, as well as the distension of the radial artery under the finger of the physician, will be the guides for increasing the dose. The author finds that the best modes of administering nitroglycerine are the simple dropping of the solution on the tongue, and by means of tablets; much less satisfactory results were obtained when given mixed with water.—*Boston Medical and Surgical Journal.*

THE SENSATIONS OF THE DYING.—It is doubtless the case that in many instances—and perhaps they are the majority—dying persons lapse gradually into an unconsciousness that ends their bodily pain and saves them from the anguish of the final parting with those they leave behind. It is not uncommon, however, for clearness of comprehension to persist to the last, and perhaps it is still more common for some of the special senses to preserve their activity. We think it was Ernst Wagner who, in his "General Pathology," dwelt particularly on the preservation of the sense of hearing in many cases long after the apparent occurrence of unconsciousness, and who tenderly cautioned his readers that this possibility should be borne in mind. The following touching account of the late Dr. Wilson Fox's last moments, when his friend Dr. J. Russell Reynolds was at his bedside, is given in the *Lancet's* obituary: "On the next morning, when obviously and consciously dying, and after his eyes had been fixed for a few minutes on the angle of the room, and as some gray streaks of dawn were entering it, he said suddenly: 'There is a great light—a great glare of light. . . . I feel so strange . . . a glare of light. What is it, Reynolds?' The reply was—'It is the peace of God.' He grasped his friend's hand firmly and said, 'God bless you.'"—*New York Medical Journal.*

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., " } Editors.

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VITAL STATISTICS AND MORTUARY RECORDS—THEIR NECESSITY.

The Board of Health of North Carolina has reached that point in its development when its work will appear for its true worth among intelligent laymen, and ought to insure the hearty aid of the entire profession. The monthly issue of the *Bulletin* affords an excellent opportunity for the collection and preservation of all statistical matter relative to the health of the State, to be recorded as the sanitary (or unsanitary) histories of the cities, towns, hamlets and whole counties all over the Commonwealth. The aggregate

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of these returns, after a few years, ought to afford a reliable basis for the promulgation of such advice as it is the province of Health Boards to give to the people. Now, the physicians in every county and town are directly interested in this matter, and with very little thought they will see how much they can aid in this work, and how the result is to redound to their benefit. The lukewarmness that has been evinced in this sanitary work would seem to justify the remarks that Dr. Billings made to a graduating class. He told them that they need have no fear of the sanitarians; that although their work was for the promotion of health and prevention of disease, they could never so far succeed in their divine mission as to do away with the needs for the physician's help, and the health officer should not be considered, in the performance of his duty, as inimical to the prosperity of the practitioner of medicine. For, said he, it matters not how often or how much the other crops failed, the fool crop never missed, and out of the folly of humanity, its violations of the laws of hygiene, its contempt for all the advice that could be given them, its unceasing following out the dictates of perverted appetites and ill-advised customs—out of these fertilizing materials to the crop of disease came the harvest that the physicians reaped. We do not regard humanity in the uncharitable way of the speaker, but we regret to know there exists everywhere some reason for the utterance of Dr. Billings' telling words, and it is the prevention and the cure of the ills that make sick people that have made necessary to a well ordered government and people the establishment and proper sustenance of sanitary boards. The lack of compulsory powers in our laws now, which would oblige every physician to report to his county superintendent, or the local board of health, the cases of infectious diseases as they occur, and the lack of statutes making the certificate of the cause of death, to be signed by a physician, necessary in every case before interment of the body, will, so long as these blanks in our laws exist, hamper very seriously the progress of the Board. For these two sources, the report of diseases, especially infectious, epidemic and endemic ones, and the death certificate of the attending physician, both of which ought to be sent in promptly to the county superintendent, will make out the reports that the Secretary is now striving to secure.

In lieu of the necessary laws, it behooves all the physicians in the State to aid voluntarily in this work, and having it once fairly set

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at work, its future is assured. For its benefits will be too apparent to allow it ever to stop.

The reports that the newspapers send out, the outcome of sensationalists' and panic-makers' stories are oftener than otherwise entirely without foundation, but they do harm nevertheless, and might be stopped if the denial could come with the authority of the health officials to back it, and if this rebutting statement should have for its authority the weekly or monthly reports from all the local boards of health.

We write this with a full knowledge that great interest has been shown in the work of the health officials, by both laymen and the profession, but so much remains to be done, and the result to be obtained by united, persistent and well-directed effort, will be so full of good to all the men, women and children over whose lives and health we are to keep watch and ward, that no outlay of energy will be unrepaid if the work reaches its legitimate end. The methods to fill out this work need no mention, as the necessary instruction is always ready for distribution from the Secretary's office, and those whose interest lead them to undertake any part of this work, can find ready assistance to their efforts.

We commend these thoughts to the members of the profession, with the assurance they mill meet with their approval, and we hope with so much of their approbation as will awaken their energies in behalf of the sanitary work of the State.

TREATMENT OF NERVOUS HEADACHE.—"After quite a number of trials," says Professor Arnold, of Baltimore, "with various remedies which stand in repute for the relief of nervous headache, I give now the preference in the neurasthenic variety to a combination of ether and tincture of cannabis indica, in doses of twenty drops of the former and ten of the latter. Sometimes these remedies act better after a good night's rest has been obtained from a full dose of chloral."—*Boston Medical and Surgical Journal.*

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REVIEWS AND BOOK NOTICES.

THE SCIENCE AND ART OF OBSTETRICS. By THEOPHILUS PARVIN, M.D., LL.D. 8vo. pp. 701.

This work, so long announced as in preparation, has been before the reading public for a few months, not long enough to test it thoroughly, but long enough to enable us to form a pretty good knowledge of its contents. Its author is master of a thoroughly good style, his reputation was established beforehand in his numerous writings and addresses while he was editor of the *American Practitioner*. His scholarship and ripe knowledge were never more evident than when reviewing the works of other authors, therefore when his first systematic treatise appeared it was looked for with eager expectation, believing that we would possess in it a thoroughly good treatise, and in this expectation very few need be disappointed. We would have to except from the above those American students who are thoroughly imbued with the supreme authority of the German School, and who see no excellence but in the servile following of these teachers.

The arrangement of this work differs little from various standard treatises on obstetrics, beginning first with the anatomy of the female pelvic organs and their physiology, followed by a complete consideration of pregnancy, including physiology, embryology, the signs and diagnosis of pregnancy, the management of pregnancy, and the pathology of pregnancy. The third division of the book is devoted to the mechanism, pathology and conduct of labor. The fourth division considers the puerperal state, and the last division obstetric operations. There have been very few American works on obstetrics—we believe this to be the third—and it is in every way a thorough exposition of the subject, such a one as we are willing to accept as an exponent of the best obstetric teaching in this country.

If we had a disappointment in reading this volume, it was the lack of personal views of the author, glimpses of which we have caught from his reported clinics and society debates. It is not necessary to pass in review all the sections of this work, if we had the space, but we can safely take the chapter on Puerperal Fever as an example of the thoroughness and conservatism of the author.

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It was a little odd to see Dr. Oliver Wendell Holmes quoted as authority on the contagiousness of puerperal fever, but so it is, he having done more by the publication of his essay on "Puerperal Fever as a Private Pestilence" in 1843, to correct the old error promulgated in this country of the non-contagiousness of this fever, we are informed, than any other American physician. We have here laid down for us a clear exposition of the heterogenetic origin of the disease, and in his summary he says: "From what is known of the so-called puerperal fever it should not be regarded as a specific disease, and strictly speaking there is no puerperal fever, that which is so denominated being a febrile affection caused by the entrance into the system of a poison from without, the nature of which we do not know, the entrance taking place through a wound of the uterus, or some part of the vulvo vaginal canal."

The conduct of labor, as set forth by the author, is based upon a plain common-sense view of the germ theory, and it is needless to say that we find none of that far-fetched employment of antiseptic sprays and other things which have attracted the attention of some otherwise resonable people. Prof. Parvin goes so far as to look after the healthful surroundings of his patients (particularly of sewage gas, a nuisance which we are thankful to record has not penetrated into many Southern lying-in chambers), that the woman take a warm bath at the beginning of her labor, and that afterward she be given a wash of a two to three per cent. carbolic acid solution for the external genitals, and if the labor be prolonged, a vaginal injection of it being given once or oftener. That the physician and nurse wash their hands in a three to five per cent. carbolic solution. The physician should also, besides washing his hands in this antiseptic solution, anoint them with carbolized cosmoline or iodoform and cosmoline before each examination. All metallic instruments should be prepared by dipping in hot water and afterwards a five per cent. solution of carbolic acid. No soiled clothes, or vessels containing evacuations from the bowels or bladder should be allowed to remain, and all soiled clothes should be removed." We quote these precautions, not because they are extraordinary, but because they are the simple, reasonable practice in vogue by the best obstetricians, as in contradistinction to the fussy details of some German writers and their servile followers.

The young physician who should make it a rule to master

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thoroughly one good work on obstetrics cannot do better than to take this one as his text-book, and the veteran practitioner will find here all he can reasonably want to refer to upon the best current practice of the day.

TEXT-BOOK ON SURGERY, GENERAL, OPERATIVE AND MECHANICAL. By JOHN A. WYETH, M.D., Professor of Surgery in the New York Polyclinic; Surgeon to Mt. Sinai Hospital, etc., New York. D. Appleton & Co. 1887. Large 8vo. Pp. 775. Leather. Price $8.00.

Of the many text-books on this subject offered to the profession recently, none exceed in practical value this work of Prof. Wyeth.

The first chapters are devoted to procedures in minor surgery, with description of the methods of preparing and preserving the apparatus needed for dressing wounds in the antiseptic practice of to-day. Illustrations of the paraphernalia of the operating room are added to those usually seen in text-books, which must be of the greatest value to those practitioners who have not the opportunity of visiting and seeing for themselves the methods now practiced in the hospitals. The colored illustrations accompanying the text on ligation of arteries with the anatomy of parts, is one of the best portions of the book.

The author, long a teacher of practical anatomy, seems to anticipate the wants and necessities of the practicing surgeon, and thereby has produced a work most admirably adapted to his requirements.

The subject of deformities of the spinal column, as that also of the lower extremities, with accompanying cut of the various appliances, is well elucidated and fully accords with the present teachings.

The treatment of wounds of the abdomen is not as full as one might expect in a work of this character, and one which is now securing so much attention at the hands of surgeons.

The chapter on diseases of the genito-urinary organs receives a good portion of the author's notice, and is a most excellent review of this subject.

On the whole this work is strictly a text-book, giving merely the details of surgical procedures, with little outside matter, and we do heartily recommend it to our medical brethren as a friend they may consult with confidence when in need of aid.

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A MANUAL OF WEIGHTS AND MEASURES, Including the Principles of Metrology, etc., with Rules and Tables. By OSCAR OLDBERG, Pharm. D., Professor Pharmacy Illinois College of Pharmacy, etc., etc. Second Edition, Revised. Chicago: Chas. J. Johnson, 105 Madison Street. 1887. Price $1.50.

This work has met with the approbation of the profession of pharmacy in the United States, its author being a member of the committee of revision of the Pharmacopœia for 1880, and as it has reached its second edition in two years its usefulness has been endorsed. The standards of weights and measures are discussed, and the old methods compared with the new, so that one can get at a glance all that is necessary in the laboratory or in any other place where such information is needed. The metric system is discussed at length, although we believe the author himself is no longer such an ardent advocate of this system for the general use of physicians and apothecaries. In this book will be found all the necessary tables for converting the old standards of weights and measures into the metric system, and also the determination of specific weights. There is also a table of thermometric equivalents between the "F." and "C." scales. No pharmacist could well do without such a volume, and the general medical reader who is not familiar with the language of the metric system will find it a convenient reference book.

A PRACTICAL TREATISE ON IMPOTENCE, STERILITY AND ALLIED DISORDERS OF THE MALE SEXUAL ORGANS. By SAMUEL W. GROSS, A.M., M.D., LL.D. Third Edition, Thoroughly Revised, with Sixteen Illustrations. Philadelphia: Lea Brothers & Co. 1887.

This book was popular from its very first introduction, and we notice by the preface that it has been translated into the Russian language. The author has divided impotence into four different forms, viz: atonic, psychical, symptomatic and organic. Dr. Gross enjoins upon practitioners not to assume that because a man is able to ejaculate he is capable of procreating, and should never pronounce his opinion until the spermatic fluid has been examined with the microscope; and, according to his statement, where there was sterility, the husband was at fault 33 cases out of 192, or 17 per cent. The descriptions of the diseases which lead to sterility are

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treated in a rational manner; and, in fact, the treatise elevates the whole subject of sterility from the low plain of the worst sort of empiricism to that of rational medicine, and, in short, makes the practice creditable, whereas, heretofore, a large number of these cases have resorted to professional quacks. But no word of commendation may be needed from us about a book which is so well known, but one thing we may be sure of, Dr. Gross has done vast good to the profession in laying down the rule that the husband should first be examined as to his virility before the wife should be placed in the hands of the gynæcologist for treatment for sterility.

THE VEST POCKET ANATOMIST (founded upon Gray). By C. HENRI LEONARD, A M., M.D., Professor of the Medical and Surgical Diseases of Women in the Detroit College of Medicine. Thirteenth Revised Edition, Enlarged by Sections on Anatomical Triangles and Spaces, Herniæ Gynæcological Anatomy and Dissection Hints. Detroit: "The Illustrated Medical Journal Co., 1887." Cloth, 86 Illustrations, 154 pages, post-paid, 75 cents.

This little volume in its former editions is so well known that it is only necessary to confine our notice to this, the *thirteenth* edition, which contains very clear and accurate topographical plates of the Venous, Arterial and Nervous systems, photo-engraved from the English cuts in Gray's Anatomy. This makes the work especially of value to accompany the surgical case of any practitioner that is doing much work in this line, who may wish at his hand a "regional reminder" of the placement of arteries and veins that he may wish to avoid in making his incisions. For this special purpose this little book, since it has the addition of these 86 engravings, is of a good deal of value to the country practitioner who sometimes does not have the time to return to his office to consult his more pretentious volumes. The "Dissection Hints" show the incisions to be made in post-mortems to advantage.

THE SCHOOL TEACHER

Is a handsome, large monthly 4to magazine, published at Winston, N. C., under the editorial management of J. L. Tomlinson and W. A. Blair. It is a matter of sincere congratulation to the friends of better and more thorough education in our State, and we most heartily congratulate the editors of this handsome monthly upon

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the conspicuous part they are taking in urging forward the great movement. Let not our people forget that the way to make our University and the colleges attain to a higher grade of scholarship is for the common schools to do their work more thoroughly. If students are not well grounded in the preliminaries the drudgery of elementary teaching must fall heavily upon the college professor whose time should be spent in higher work. All along the line, though, we are rejoiced to say, education is advancing, and the citizen, be he editor or humble school-master, in his plain log-cabin school, who is forwarding this movement, is doing for his State a noble work.

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WYTHE'S PHYSICIAN'S POCKET DOSE-BOOK

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CORRESPONDENCE.

IS A CHEMICAL ANALYSIS A SUFFICIENT GUARANTEE OF THE SAFETY OF DRINKING WATER?

Messrs. Editors North Carolina Medical Journal:

After experience had shown that drinking water was the great medium through which the poison of typhoid fever was introduced into the system, chemistry stepped in and discovered that, as a rule, water known to have caused typhoid fever contained an albuminoid substance derived or derivable from human excrement. In the absence of direct proof it was assumed that this substance was the poison, which, when introduced into a proper human subject, developed typhoid fever. Consequently drinking waters were characterized as pure or unwholesome as they did not or did contain an appreciable amount of this substance. This remains so to this day. While it may be, and doubtless is, true that water containing a certain amount of this albuminoid substance is unfit to drink, is the converse of this true? May not the bacillus of typhoid be present in water which does not contain the albuminoids? This is an important practical question, because a great many persons rely upon the chemical analysis of the water from their wells to determine its wholesomeness or the danger in using it.

Very respectfully,

J. R. CAMPBELL, M.D.

[The question which Dr. Campbell has propounded is one which cannot be positively answered in our present state of knowledge. We can say this much with certainty, that chemical science has not alone been able to determine the safe potability of water, and that chemical and biological and microscopic tests combined cannot demonstrate with certainty the absence of disease-producing elements. The test that the best knowledge gives us is approximate assurance of the harmlessness of certain waters. The more experienced the chemist or sanitarian, the more cautious will be his reply with regard to the purity of water, and always will he require full information of the surroundings of the source whence the specimens

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are obtained. The presence of *chlorides* and albuminoid ammonia in water in certain proportions leads to suspicion, which may be safely heeded, but their absence does not give assurance that disease-producing elements may not be present. As we naturally look for disease-producing elements in dejections from the body, and such dejections in sewage matter, so would we infer that in water containing albuminoid ammonia and chloride of sodium its source of contamination was from animal dejections, and therefore dangerous, and if not dangerous, repulsive to our very nature. Science does not go so far as to say that conversely all water free of such impurities is good, but common experience, even in this case, leads us to scrutinize the surroundings of the supply in all cases. The existence of "disease germs" may depend upon nitrogenous and saline elements or may not. We have only gone far enough to prove an essential typhoid bacillus, but do not know its life history out of the body. Most of our opinions about drinking water must still remain in the region of probabilities until progressing studies are completed.—EDS.]

ANESTHETICS DURING PARTURITION.—Dr. Fordyce Barker says that "during the past thirty-seven years I have rarely attended a woman in confinement without the use of chloroform, never where she has suffered considerable pain. Having thus used it in several thousand cases, I unhesitatingly assert that in not a single case have I ever found cause to regret its use."—*Boston Medical and Surgical Journal.*

SPERMACETI A SUBSTITUTE FOR COD-LIVER OIL.—We get a valuable suggestion from an editorial in the *Medical Times*, June 11th, calling attention to spermaceti as a substitute for cod-liver oil, as recommended by Prof. Senator. Finely pulverized, mixed with sugar and flavored with oil of lemon, it can be taken in teaspoonful doses without producing nausea. Two and a half to five drachms of the mixture may be taken and digested and absorbed in the course of the day. The further suggestion of the use of soap—sapo medicinalis—as a substitute for fats, in pills or capsules, for the same purpose, will not be likely to meet with much favor.

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DR. C. J. O'HAGAN.

We welcome the news of Dr. C. J. O'Hagan's election to the Vice-Presidency of the American Medical Association, and we know that every member of our State Society will join in the congratulations to our friend. There never has been in any organization a man whose kind and dignified manners, great intellectual worth and exceeding generosity have entitled him to more genuine respect and affection than Dr O'Hagan has obtained and holds without question in the State Society, and all the honors he obtains make glad the hearts of his friends. The JOURNAL extends the hand of friendship and congratulation to the Doctor.

A TOO CONFIDENT scanning of proof-sheets led us into the blunder last month of printing an extract from a metric address of Dr. John Godfrey, M. H. S., without crediting him or the *News and Practitioner* with it. We enjoyed the clever address enough to reprint a selection, and now desire to apologize to the author, the *News and Practitioner* and our readers for the error.

We have also to regret that the important Presidential address by Dr. Bahnson appeared with some gross errors. We made him say that he regretted the presence of some of the older members, when he intended the opposite. He addressed the Society as "fellow-citizens," when the manuscript said fellow-members, and the worst of it all is that we cannot accuse Dr. Bahnson's MS. of being written badly. The fault is all ours, but before this will have reached our readeas they will have assigned the errors to our very skilful printers, putting the proper construction upon it themselves. But we regret these blunders very much, and will be more alert in the future.

A GOOD DENTIFRICE.—Precipitated chalk forms the best basis for a tooth-powder, to the base of which may be added pulv. saponis and ol. eucalypt., a drachm of each; and, if there is no objection to the taste, half a drachm of carbolic acid.—*Lancet.*

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NOTES.

Dr. Hunter McGuire received the degree of LL.D., from the University of North Carolina at its last Commencement.

Lactic acid in the green diarrhœa of children, recommended by Prof. Hayem on the microbian of the disease. He administered it in solution of 2 of acid to 100 of water or other suitable vehicle, a teaspoonful being given to a child a quarter of an hour after nursing. During 24 hours 5 to 8 teaspoonfuls are given.—*American Journal of Pharmacy.*

Map of Arctic America.—We are indebted to "Science" for a map of Arctic America by Dr. F. Boas, which is worth careful examination and preservation. Science has earned a substantial reputation by the subjects of scientific interest discussed in its pages; the range of subjects is very broad and the contributions from the very best writers.

New Remedy for Ringworm (*Siegesbeckia Orientalis*).—This new remedy for ringworm has been tested by Dr. J. Hutchinson, Glasgow (*British Medical Journal*, June 25th, 1887), and he considers it speedy and reliable. It is a composite plant of the sunflower tribe, a native of the Mauritius, where it enjoys a reputation as a remedy in gout, syphilis, scurvy, scrofula, etc. The preparation is made there by bruising the leaves of the plants and adding sugar to make a syrup. Dr. Hutchinson uses the tincture in combination with equal parts of glycerine.

The Hobnail or Gin-drinker's Liver not Diagnostic of Drunken Habits.—I myself once testified in a court of justice in an insurance case—and I know of other physicians who have done so—that "a certain person who had a large, fatty liver, to our best knowledge and belief, was not likely to have been a hard drinker during life, chiefly because at the autopsy no cirrhosis of liver was found." This was fully in accord with the teaching of our masters in medicine and with text-books. Yet, I am sorry to say, it is entirely wrong; and the jury decided against the insurance company on account of such erroneous medical testimony. My experience has since taught me that cirrhosis with contraction of the liver is at

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least as rare an affection in drunkards as it is in "teetotallers," and that the traditional "hobnail" or "gin-drinker's" liver is not diagnostic at all, while the large, fatty liver is one of the most prominent signs of alcoholism."—*Prof. Formad in Transactions Association of American Physicians*, 1886.

FISCHER has found that the air of the Atlantic Ocean, a certain distance from land, is free from bacteria, but that the number increases with the approach of land. The air near continents or large islands is much richer in bacteria than that near small islands.—*Medical Standard.*

SACCHARINE.—Saccharine, which has recently been introduced into therapeutics as an excessively sweet material, three hundred times sweeter than glucose, is likely to prove of considerable service. According to Anducco and Mosso it has very high antifermentative and antiseptic properties. It is recommended for internal administration to diabetics, with a view to rendering their food more palatable. It passes unchanged through the organism, and may be detected in the urine in its original condition. In cases of indigestion or where the intestines are the seat of abnormal fermentations and acidity, it is extolled as an antiseptic.—*London Lancet.*

ANTAGONISM OF STRYCHNINE AND ALCOHOL.—The results of the experiments of Jarochewsky on dogs are summed up as follows: Strychnine prevents alcoholic inebriation; at the same time it enables the organism to support large doses of alcohol for a very long time, it preserves the organs (liver and vessels) from the characteristic alterations produced by alcoholism. The action of strychnine is, up to a certain limit, paralyzed by alcohol; beyond this limit strychnine becomes poisonous to the inebriated animal. Strychnine is an excellent medicament in all forms of alcoholism. It is a powerful prophylactic.—*American Journal Pharmacy.*

[If these conclusions apply to man, it demolishes the stock story of the day about the fearful harm from alcoholics being from their adulteration with strychnine. It would seem that strychnine in proper quantities would enlarge the capacity to drink alcoholics without harm. We await more extended experiments upon man before we can adopt Jarochewsky's results.—EDS.]

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SOME OF THE RARER SYMPTOMS PRODUCED BY GALL-STONES, is the subject of an instructive address by Dr. William M. Ord, London, in the *British Medical Journal* of March 5th, 1887. He gives us most interesting observations under the headings "gall-stones passed without symptoms; gall-stones giving rise to pain, etc., without jaundice; producing intermitting pyrexia; producing glycosuria; gall-stones and reflected visceral inflammation; gall-stones and malignant disease of the liver; gall-stones and hæmorrhage." The author in a concluding paragraph says: "The various effects of gall-stones which we have passed under review may well make us pause and meditate. We have to deal with biliary colic very often; to know it as a process involving intense pain and many other distresses; to see it make its progress commonly to a satisfactory end. As regards the suffering produced, we are impelled to do all we know towards relief; as regards the outcome, we may be generally hopeful, if not confident. Biliary colic being the most commonly apparent indication of the presence of gall-stones, we may be ready to see in gall-stones things productive of much suffering, but having in their aspect more of the troublesome than the deadly. Gall-stones, indeed, travel so commonly by the same line, that we tend to believe that, in spite of delay occurring now and then, the terminus must be reached. The consideration which I have very imperfectly put before you may remind us of many possible accidents of the journey. A permanent block occurring on the line sends the travelling stone into many by-ways of disaster. We may find the stone in such a case causing perforation of the gall-bladder, causing intermitting pyrexia, causing glycosuria, causing distant inflammations, probably malignant disease, and certainly serious hæmorrhage. I rise from the contemplation with increased respect, born of sad experience, for the gall-stone. If biliary colic be no very terrible illness, the gall-stone is to be dreaded and feared, in proportion as there is less of the colic and more of accessory symptoms."

[The writer is reminded of how serious symptoms caused by gall-stones may disappear without treatment. A multipara had an abortion at the fourth month. Her case excited unusual alarm because of a deep jaundice which set in a week or so previously. The patient had become very emaciated, and the abdominal walls were thinned sufficiently to detect the enlarged gall-bladder with contained gall-stones. Realizing the extreme danger of jaundice during pregnancy, the gravest prognosis was imparted to the family. The abortion terminated favorably, and with it the discharge of gall-stones, and an unexpectedly early restoration to health in consequence. Such cases, we believe, are rare.—EDS.]

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BOOKS AND PAMPHLETS RECEIVED.

Anæmia. By Frederick P. Henry, M.D.

Antiseptic Midwifery. By H. J. Garrigues, M.D.

Practical Bacteriology. By Thomas E. Satterthwaite, M.D.

The Modern Treatment of Eczema. By H. G. Piffard, M.D.

Annual Report of the North Carolina Experiment Station for 1886.

Nasal Reflexes as a Cause of Diseases of the Eye. By W. Cheatham, M.D.

Infants, their Chronological Progress. By Prof. Stanford E. Chaillé, M.D.

Transactions of the Rhode Island Medical Society. Vol. III. Part IV. 1886.

Granular Conjunctivitis, with and without Pannus. By W. Cheatham, M.D.

The Physical, Pathological and Therapeutic Effects of Compressed Air. By Andrew H. Smith, M.D.

The Physicians' Leisure Library. Published by George S. Davis Detroit, Mich. Price 25 cents each.

Pregnancy, Parturition and the Puerperal State and their Complications. By Paul F. Mundé, M.D.

The Surgery of the Pancreas, as based upon Experiments and Clinical Researches. By N. Senn, M.D.

The Treatment of Hæmorrhoids. By Charles B. Kelsey, M.D. The Physicians' Leisure Library. No. 1, 1887. Issued monthly by George S. Davis, Detroit, Mich. Price $2.50 a year; single copies 25 cents.

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NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

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ORIGINAL COMMUNICATIONS.

PUERPERAL ECLAMPSIA.

By F. W. Ritter, M.D., Mayock, Currituck County, N. C.

Among the most dangerous complications of pregnancy, and probably only secondary to post-partum hæmorrhage, are those cases of puerperal eclampsia, taxing the resources of the physician to the utmost and rendering it an imperative duty on every one who practices midwifery to make himself thoroughly acquainted with its preventive and curative treatment.

The reprehensible practice of parturient women in this section of trusting themselves during labor in the hands of ignorant and incompetent midwives, debars the physician from seeing eclampsic patients in time to take advantage of the precursory symptoms that are occasionally present, and too frequently he is only called in after the supervention of coma; and the life of the fœtus, and often of the mother, is the sacrifice.

Normal, physiological labor is a process that ordinarily needs, or tolerates, no interference; but owing to the present modes of living, and what is ostensibly termed refinement, by which the physical

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development of the female sex is prostituted to the dictum of fashion, truly natural labors are not common, and scientific midwifery is becoming more and more a necessity.

It is not my aim in this article to suggest any new treatment for puerperal eclampsia, but to urge upon the profession the necessity of attending to those states of the system presented by pregnant patients indicating albuminous urine.

Although Imbert Goubeyre has deduced evidence showing that every case of albuminuria is not necessarily accompanied by convulsions, still it does so in a sufficient number of cases and renders it exceedingly irrational practice to allow a patient, when albuminuria is diagnosed, to go to confinement without making strenuous efforts to restore the balance of circulation, rid it of noxious elements, and, by placing the body in as nearly as possible a physiological condition, pave the way to a safe and pleasant confinement.

Since Luer, Braun, Frerich and Tyson have shown the intimate association of puerperal eclampsia with albuminuria, we have in most cases a key to the treatment, and it is my humble opinion that if women would place themselves under competent medical advice two or three months before confinement, a great many cases might be averted.

I have seen women in confinement suffering from scanty urine, anasarca, dizziness, spots before the eyes, etc., pointing unmistakably to a renal complication, and have been informed by them that these symptoms, with greater or less intensity, had existed a month or more prior to their parturition, and I have yet to see the case presenting the foregoing symptoms that did not eventuate in eclampsia more or less severe. The presence of albumen in the urine of pregnant women does not have nearly the same significance as in the non-pregnant state, and often depends upon temporary causes, still the presence of this foreign element in the urine should speed us to action and warn us not to remain inactive until a permanent and fatal effect is produced.

In the present uncertainty of the pathology of puerperal eclampsia it is important to scan closely the literature and clinical history of a disease so fraught with danger. A great many hypotheses have been advanced purporting to explain its etiology, and each of them with some truth, but no one hypothesis has explained all the phenomena, while some are diametrically opposed by philosophical laws.

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W. R. Playfair, in his admirable treatise upon "Obstetrics," gives a succinct account of the pathological condition of puerperal eclampsia as advanced by Braxton Hicks, Kussmaul, Turner and other writers, and discriminates very nicely between apoplexy, epilepsy and hysteria, each of which occasionally complicates parturition, but touches very lightly upon the preventive treatment. The state of the bowels and bladder ought in every instance to be attended to, as a loaded rectum or a distended bladder will in many instances keep up the convulsions and baffle the efforts of the physician, who relies solely upon the administration of drugs. A simple enema, bringing away large masses of impacted fæces or catheterization, relieving the bladder of a quantity of dark, ammoniacal urine, has in numerous instances cut short an attack of convulsions that threatened to terminate fatally. In patients presenting evident symptoms of albuminuria, as a preventive treatment I generally prescribe the benzo-salicylate of lithia in conjunction with fresh hydrangia, which is prepared by the Lambert Pharmacal Company of St. Louis, in doses of 3 to 5 grains of the former and 30 grains of the latter every four hours, or according to the severity of the symptoms, and order the bowels moved twice or thrice daily with confection of senna, which is a mild and very efficient laxative, when, as is frequently the case in the seaboard counties, malaria is present as a complication. Podophyllin and extract. taraxaci will be found excellent cholagogues, and if the patient is at all anæmic, the administration of dilute nitro muriatic acid, combined with the tincture of the chloride of iron and compound tincture of cinchona, will give excellent results.

A steady and persistent use of the lithia, and, where there is a lack of tenacity in the patient, the free use of tincture of iron combined with glycerine to counteract its astringency, while it will not cure a chronic case of Bright's disease, will in nearly every instance relieve the urgent symptoms and give the woman a better chance of a safe recovery. As a useful adjuvant to the above treatment dry friction with a coarse towel or flesh brush, or a Turkish bath twice a week to equalize the cutaneous circulation and open the emunctories of the skin, and passive exercise will be found really beneficial. In multipara, with lax abdominal walls, allowing the uterus to antevert and compress the bladder, a well-fitting flannel abdominal supporter is quite a desideratum, for if the contractile power of the

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bladder is interfered with by pressure from the gravid uterus, vesical irritation will result.

I give below four selected cases of puerperal eclampsia occurring in practice, with treatment and results:

Case 1.—January 28th, 1887, at 1 o'clock P. M., I was called to Mrs. C. Found her lying on the floor; upon making inquiry learned that while sitting before the fire she remarked to those in the room, "I have a funny, queer feeling," and in a few seconds pitched headlong out of her chair, bruising her head badly upon the hearth and burning one hand slightly. The convulsive seizure lasted only a few moments, and when I arrived she was slightly dazed, but answered questions intelligently. She was not expecting confinement under two or three weeks. I had the bed prepared and put the patient on it, and in about fifteen minutes a severe convulsion came on, during which I administered chloroform. After the paroxysm a digital examination revealed a dilated and patulous os, ample pelvic diameters and the condition of the soft parts good. Having administered a dose of chloral hyd. and pot. brom., which was immediately vomited, I ordered an enema of warm water, which brought away quite a large amount of hard fæces. I followed the simple enema with one of chloral and pot. brom. There being no pains, the os being sufficiently dilated and the membranes ruptured; ¼ grain of ergotine was given subcutaneously every hour. At the end of three hours slight expulsive efforts began to be made, and at 10 o'clock P. M. she gave birth to a small, but well and fully formed male child, which was asphyxiated, but was resuscitated and cried lustily at the end of one hour. This patient had only six convulsions in all, but entered a profound coma after the second attack. She revived in about three hours after the birth of the child, and made a good recovery in three weeks. Mrs. C. presented very evident symptoms of albuminuria when I saw her, and I was informed that she had suffered from scanty urine, anasarca, dizziness, etc., for a month or so prior to confinement. The acetate of potash and spts. nit. dulc. acted like a charm in this case and the anasarca was speedily dissipated.

Case 2.—On March 6th, 1887, at 4 o'clock P. M., I was called by Dr. K., of our village, to assist him in a case of puerperal eclampsia. Upon arrival I found the patient profoundly comatose, having had prior to my arrival forty or more convulsions, unable to swallow,

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face livid, pulse somewhat feeble. Upon examination found a roomy pelvis, labor in first stage, vertex presentation, os rigid and dilated to about the size of a crown piece, with no expulsive pains. Upon auscultation could detect no fœtal heart-sounds. Chloral and bromide of potash having been given before my arrival, I had extract of belladonna freely applied to the rigid os and began the subcutaneous injection of ¼ grain Bonjean's ergotin every hour to stimulate the natural expulsive efforts, and in four hours under this treatment the uterus began to contract and the os to dilate and lose its rigidity. The membranes were then ruptured, the ergotin suspended, and in two hours more we had the satisfaction of relieving our patient of a medium size fœtus, which was dead. She remained comatose over twenty-four hours before rousing, but never had another convulsion after delivery, and under the administration of diuretics and alteratives made a rapid recovery.

Case 3.—September 21st, 1886, at 9 o'clock P. M., I was sent for in haste to see Mrs. H., aged 17 years, primapara. When I arrived the patient was in a deep coma, the cheeks being drawn in and distended with each respiration, face turgid, carotids throbbing, no expulsive efforts, the abdomen enormously distended, bladder and rectum both empty. Upon inquiry learned that she had been in labor twelve or fourteen hours, and had employed a physician who had left her without making any efforts to subdue the convulsions or to deliver her. She had some forty or fifty seizures before I saw her and two afterwards. Examination discovered the os dilated, membranes ruptured, the fœtal head presenting, and as there was no effort at expulsion and the mother evidently passing to the spirit land, I applied the forceps and had no difficulty in delivering her of male twins weighing, respectively, 8 and 9 pounds, which, however, had evidently been dead sometime. The mother died in a few hours after delivery, having never recovered consciousness.

Case 4.—Primapara, single, aged 18 years, poorly developed for age, had been under a colored midwife for thirty hours and the membranes had been ruptured eighteen hours. The head of the fœtus had impacted the anterior lip of the cervix. The pelvis was very small. The antero-posterior diameter being too short to allow of the passage of the fœtal head by the natural efforts, and these being absent, I applied the forceps, and, after several attempts, delivered her of a very large male child, which ceased to breathe

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in one hour or so. I could not learn how many convulsions this patient had. It was six hours after delivery before she regained consciousness, and, after suffering from a severe diarrhœa, in about two months she was discharged.

The history of each of the above cases of puerperal eclampsia presented similar features before parturition, none applied for medical advice, and all went to term with anasarca, which had existed in conjunction with the other symptoms of albuminuria for a month or two prior to confinement, and it is the object of this paper to show the general, although not universal, dependence of puerperal eclampsia upon albuminuria, and open a discussion among the fraternity in the hope of finding some treatment prior to parturition that will be an effectual preventive.

PUERPERAL THROMBOSIS AND EMBOLISM OF THE PULMONARY ARTERIES.

By R. A. Patterson, M.D., Aurelian Springs, N. C.

If there is little difference in the symptoms of these rare and fatal affections, there is great difference of view as to their origin, some contending that the obstruction to the circulation is always an embolus originating from a peripheral thrombosis and carried in the blood and deposited in the pulmonary arteries, basing their argument on the assertion that the force of the cardiac pulsation is too great to allow of the deposit and accumulation of fibrin and formation of a thrombus "in situ."

The other party claim that as the obstruction to the circulation in a proportion of the cases precedes the peripheral thromboses, as sometimes happens in phlegmasia dolens, they must proceed from the same cause, viz: that the same abnormal state of the blood which generates the peripheral lesion causes the deposit of fibrin at the bifurcations of the pulmonary arteries or other parts thereof. Rheumatism, fevers, and notably anæmia, predisposing the blood to said deposit; also effete matter from involution of hypertrophied uterus.

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Four cases of the malady have come under the observation of the writer within a few years. All had set in before my arrival, so that their history is only partially known.

Case 1.—A colored woman, after a favorable accouchment, was in a few days suddenly attacked with a most painful dyspnœa, pulse rapid and thready, confined to a sitting posture, respiration so rapid as scarcely to admit of utterance. Died in a few hours. The strictest quietude of mind and body, combined with stimulants, seems to be the system of treatment most approved at the present time.

Case 2.—White woman. Found her manifesting the same symptoms, but not so severe. Patient able to walk, which I learned she persisted in doing, and died very suddenly immediately after lying down.

Case 3.—Colored woman. After protracted and difficult instrumental labor was attacked with the symptoms as above described. A few days after phlegmasia dolens attacked one leg. She recovered from both affections in about three months. In this case the pulmonary affection preceding the peripheral would seem to substantiate the belief that the thrombus sometimes originates in the pulmonary arteries.

Case 4.—A white woman about 22 years of age, had borne two children; at fourth month of pregnancy suffered with pernicious anæmia and aborted. Fifteen hours after delivery the lung trouble commenced and progressed steadily. The dyspnœa was most distressing. Full consciousness remained to within a few minutes of the close. Her very anæmic condition, doubtless, favored greatly the deposit of fibrin.

At the late meeting of the State Medical Society, at Charlotte, the writer, wishing to elicit a discussion of the malady, stated that within the last ten years there had occurred in his practice four cases of an affection which he diagnosed to be thrombosis of the pulmonary arteries, and described them as being attended with great dyspnœa and frequent pulse, and asked if any member of the Society had met with similar cases.

These are what were referred to in the minutes of the session at Charlotte, in which the reporter said: "Dr. Patterson mentioned having four cases of difficulty of breathing after labor. One of these died, the others recovered." The error, doubtless, occurred from the difficulty of being heard.

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GLIOMA OF THE RETINA; CONVULSIONS; EXTIRPATION OF THE EYE; DEATH.

By Thomas F. Wood, M.D.

Mistakes in diagnosis, if thoroughly recognized and investigated, are capable of yielding valuable lessons to the practitioner. I have overcome my hesitation in making this case public, because I believe its narration may serve to teach the important lesson in diagnosis which I learned by it.

O. S., a boy not quite 3½ years of age, was brought to me for an eye trouble. The cursory examination I was permitted to make of the little patient, who had become peevish by frequent attempts to see his eye, revealed what I took to be glaucoma. The upper lid was prominent and slightly red, having the appearance of ptosis, but still under control of the patient. The globe was hard, but not stony hard, as described in absolute glaucoma. The anterior chamber had the reflex of a glaucomatous eye. There was a great amount of constitutional disturbance and the patient anæmic, and his appetite exceedingly whimsical.

The history of the case as obtained from the mother was that when the child was eighteen months old, while at play, it was seized with a sudden pain in its eye, and came running to her saying he had "got some snuff in his eye." She examined it, but did not discover any snuff. The pain passed off in a short time, or at least he was easily pacified. It was not long after this occurrence that a relative visiting the house remarked upon the peculiar appearance of the child's left eye. As he remarked he "could look deep down into the eye—there was a small clear spot in it." This was about August, 1883, two years after the first symptoms were noticed.

The father of the child was not willing to have an examination made at the first visit, and he returned to his home leaving the impression on my mind that I had absolute glaucoma to deal with, and that nothing better could be promised than an iridectomy for the remaining eye.

On Tuesday, 5th February, 1884, seven months after he was first seen by me, the patient was brought again to me, a distance of ten miles in a buggy. Shortly after his arrival he was taken with convulsions of a most violent character, as described by the friends

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present. I saw him two hours later, and, learning the condition of the patient from the messenger, I secured the assistance of my friend Dr. W. J. H. Bellamy, who kindly visited him with me. We found him in a state of coma. His lips were cyanotic and covered with frothy saliva; his complexion was cadaveric; his pulse was small and very rapid; his breathing labored. Temperature in the month was found to be 99° F. The left upper lid was perceptibly prominent; there was a hæmorrhagic stain of the lower edge of the sclerotic; death seemed imminent. A hasty examination led us to the conclusion that the life of the child was threatened by the pressure of the globe, and extirpation was decided upon.

Chloroform anæsthesia was attempted, but the breathing was so irregular that it was found impossible and unnecessary. Artificial respiration had to be kept up during the operation. There was the usual amount of hæmorrhage, which was encouraged. After the extirpation was completed the breathing improved and so continued until it became normal in a few hours. The justice of the operation on therapeutic grounds was thus demonstrated.

A few months after, the orbit refilled, and the growth was removed, the cavity being well filled with chloride of zinc paste, and treated for several days. The fatal ending was thus delayed only a few months, the parents of the child declining any further efforts to destroy the growth.

The history of this case covers a period of about three years.

TREATMENT OF SCIATICA.—Dr. Metcalf, of New York, says that no prescription for sciatica has ever equaled in efficacy the following: Tinct. aconit. rad., tinct. colchic. sem., tinct. belladonna, āā 3j. M. Sig: Dose, six drops every six hours. He also uses triturate tablets, each containing three drops of the following: Tincture of aconite root, tincture of seeds of colchicum, tincture of belladonna, tincture of actea racemosa—equal parts by volume. Dose, one every four or eight hours.—*Journal American Medical Association.*

A PROMINENT English physician claims to have treated 500 cases of typhoid fever without alcohol, with a mortality of only 4 per cent.—*American Practitioner and News.*

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THE USE OF ALCOHOL IN FEVERS.

At the meeting of the Detroit Academy of Medicine, March 1st, 1887, Dr. Cleland introduced the discussion of the evening on the subject of alcohol in fevers.

The subject, he said, is one of which I may say I know a good deal practically. It is one thing, however, to practice, another to theorize. Of the importance of alcohol as a therapeutic agent in the treatment of continued fevers, I have abundant clinical evidence, and that importance is now very generally recognized, although in the past there has been much division of opinion among physicians on the subject. Dr. Todd was the first to advocate its use, some forty years ago. There was at first strong opposition to such a mode of practice on theoretical grounds, but there are few writers to-day who do not recommend it.

The maintenance of the body temperature at a certain fixed standard is essential to health; any departure from this standard is indication of disease. In fever there is always elevation of temperature. This implies increased combustion, which may arise from different causes. (1) It may have a purely nervous origin, as in irritative or ephemeral fevers. (2) It may arise from some difficulty affecting directly the heart-centre, which is supposed to be located in the floor of the fourth ventricle—although of late the existence of such a centre has been disputed. At all events, the inhibitory power of the vaso-motor system is disturbed or diminished. (3) It may be due to the action of a *materies morbi* in the blood, and this is the case in the majority of fevers.

Long-continued fever signifies wasting of the body. This is evident in the decline of strength, in the failure of the heart, etc. It is shown also in the increase of the products of combustion (urea, etc). The so-called typhoid condition does not belong to any specific fever. It is the result of a prolonged high temperature, from whatever cause. It is most commonly seen in continued fevers. It is in this condition that alcohol is indicated as the remedy par excellence.

Alcohol lowers the temperature, partly by bringing the blood to to the surface, partly by exciting perspiration; it supports the heart, lowering the number of pulsations, and it saves the tissues, being

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probably itself consumed. The strength of the patient is certainly maintained under its use, and wasting is held in check.

In certain cases, with a pulse rising and a temperature of 104° to 105°, alcohol will lower the pulse, induce quiet and refreshing sleep, and give tone and comfort to the patient in many ways.

I seldom begin to give alcohol in typhoid fever until about the middle or end of the second week. If the pulse maintains its strength and doses not become rapid, I continue to withhold it.

The best form in which to administer alcohol is that of whiskey, which should be combined with food, generally with milk. The quantity to be given must be determined by watching its effects. If it lowers the pulse and produces sleep, continue it. If the patient becomes excited and the delirium is aggravated, or if the temperature rises, it is doing harm rather than good.

The mistake is often made of giving too little. Where small doses have only an excitant effect, large ones may be sedative. Even large doses do not produce intoxication in these patients.

I have sometimes given very large quantities of alcohol. I remember a case where I gave to a young girl, 11 years old, a tablespoonful of whiskey every 1½ hours for three weeks, and she made a good recovery. To a man I gave about 1½ pints of whiskey every day for several days, and he recovered with comparatively little wasting.

Dr. Andrews: Opinions with regard to the use of alcohol in fevers are as multitudinous as authors. With the exception of a few, who have a strong bias of prejudice, the profession come out in favor of the use of this agent. We do not yet understand the nature of pyrexia. Some pathologists question the existence of a heat center. The theory that it is due to increased tissue metamorphosis is not as universally accepted now as it was fifteen years ago Now the nervous theory is the popular one. Whatever be our theories with regard to their causation, there is no question about the injury which results from long continuance of febrile conditions. And there is as little question about the beneficial influence of alcohol in these continued fevers.

It is a fact of observation that certain agents reduce the body temperature when abnormally high. We do not know how they do this in all cases; the *modus operandi* is not the same with all. Aconite depresses the heart's action and stimulates the sudorific

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apparatus, and so we partly understand its action. We are not so clear in our understanding of the action of alcohol, and its effects are not so direct or so uniform. To obtain the desired effects it must be given in some cases in small doses, repeated at long intervals. In other cases it must be used frequently and freely.

In an epidemic of typhus fever in New York, thirty years ago, I remember that good results were said to have followed the use of brandy in large quantities—in one case 52 oz. every day; if this quantity were diminished, symptoms of exhaustion appeared.

I have given to a patient 38 oz. of port wine every day for two weeks, giving also three quarts of milk and raw eggs freely, and these doses were necessary. I have seen other cases where no amount of alcohol could be tolerated.

There are physicians of eminence who eschew the use of stimulants wholly; it seems to me without good ground. My own observation is that they have such a positive influence on nutrition that they are indispensable agents in the successful management of fever cases.

Dr. Maire: One point further ought to be mentioned. Dr. Cleland would not give alcohol in the early stage of fevers. An exception must be made to this rule in the case of patients who habitually use stimulants.

In the case of young children, instead of giving alcohol internally, we may obtain its beneficial effects in some degree by using alcohol baths.

Dr. Connor: It is pretty well made out that the action of alcohol on the nervous tissue is an anæsthetic one. Its first effect, the glow and exhilaration that is taken as evidence of stimulation, is due to its anæsthetic action on the vaso-motor system, and we may trace its anæsthetic effects, when given in large doses, upon tissue after tissue, until the man is dead drunk, i. e., in a condition of general anæsthesia. This seems to me to point out the "indications" for the use of alcohol as a therapeutic agent. By keeping it in mind we may use the remedy rationally, as well as empirically. There is an irritated condition of the nervous system in fevers, which interferes with its normal functions, and reacts to increase the difficulty that has caused it. Alcohol controls this irritation, and I believe that it is in this way that it accomplishes its results. It is to be classed not with nutrient remedies, but with anæsthetics like chloroform.

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Dr. Bigg: I confess to having used alcohol always in the first instance with some trepidation. I have regarded it rather as antidotal than as nutritive in its action. There is present something that acts on delicate nervous organizations as a poison. Alcohol acts as an antidote to this poison.

Dr. Noyes: The use of alcohol has had its advocates and its opponents. It is now conceded that it is both a food and a medicine. Much depends on the dose and degree of dilution. Its action on tissues when concentrated is that of a strong irritant. Properly diluted it acts as a stimulant. By personal experience I know that its effects on the general system are quite different when taken in the form of wine from what they are in the more concentrated form of spirits. In the one case it increases intellectual activity, in the other its influence is benumbing. Its value in the treatment of febrile diseases has been recognized by physicians for many years.

Dr. Lyons: We are apt to forget that a remedy like alcohol may act in several different ways, having no relation to one another. Some have looked exclusively upon the action of the remedy upon the nervous system, which, without question, is of great importance. Others have considered it simply as a material capable of oxidation, and have been puzzled to understand why its influence on nutrition is so variable. It is as if one were to use anthracite coal as a fuel, trusting wholly to his knowledge of the theoretical heat-producing power of its carbon, and forgetting the necessity of providing a suitable fire-box for its combustion.

It is true that anthracite coal is capable of producing a definite amount of heat, when burned. It is equally true that the coal, injudiciously used, may put out the fire—and something very similar to this is perhaps true of alcohol. It is certain that its primary and immediate action is upon the nervous system, and that many of its beneficial effects may be explained in this way. It does not follow that it may not also serve under proper conditions as a fuel. Scientific observations seem to have proved that it *is* consumed to a certain extent in this way, and it is entirely possible that this may be the case in a febrile condition to a greater extent than in the normal condition of the system. Its effect as a food is certainly greatly overshadowed in health by its immediate action on the nervous system, and the physician may sometimes be disappointed in his expectations when he gives it in diseased conditions from this

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same cause. I am not assuming that in fevers alcohol does actually serve as a food, but simply urging the necessity of remembering that in its relations to a living organism such an agent as alcohol may have a double, or a three-fold, or a manifold action, and it is not well to dogmatize with regard to it, except on a basis of clinical observation.

Dr. Cleland: I am pleased that this subject has been so fully discussed; I should have been glad to have heard from other members of the Academy. Every case must be treated practically as a study. We must feel our way in the use of alcohol, as we do with many other agents. Experience teaches us to graduate the dose to the requirements of the case, and it is impossible to lay down any but general rules.—*American Lancet.*

THE REPORT OF THE COMMISSION ON HYDROPHOBIA.

The report of the Commission appointed in April, 1886, by the then President of the Local Government Board to inquire into M. Pasteur's treatment of hydrophobia was presented to Parliament on Tuesday last. It is not a lengthy document, but in a comparatively few paragraphs it affords the most complete and powerful defence of M. Pasteur's method, and the most crushing reply to his critics yet published. The Commission consisted of Sir James Paget, Sir Joseph Lister, Sir Henry Roscoe, M. P., Dr. Richard Quain, Dr. Lauder Brunton, Professor Burdon Sanderson, and Dr. George Fleming, Principal Veterinary Surgeon of the Army, with Mr. Victor Horsley, Professor Superintendent of the Brown Institution, as Secretary.

All attempts to estimate the value of M. Pasteur's method of prophylaxis against rabies necessarily involve the investigation of two propositions, which are distinct, though nearly connected; the report of the Commission, therefore, necessarily falls into sections which must be studied in their natural sequence. The great French biologist first claimed that his inoculations were capable of protecting a man or animal from the risk of becoming infected if bitten by a rabid dog; but as the success of this method became noised

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abroad, he was compelled to attempt to prevent by its use the development of the disease in persons already infected. The first or "protective" treatment has been amply tested, and the Committee is able to report that "it may be deemed certain that M. Pasteur has discovered a method of protection from rabies comparable with that which vaccination affords against infection from small-pox."

The main question of human interest, however, is whether the second claim put forward by M. Pasteur, namely, that he has discovered an effective "preventive" treatment capable of preventing the development of the disease in persons bitten by rabid dogs, is well grounded. Upon this all-important point the Committee has brought together an amount of evidence which will go far to settle the question, and certainly constitutes the report one of the most important documents yet contributed to the controversy.

The report is founded upon observations made by certain members of the Committee who visited M. Pasteur's laboratory and investigated a series of his cases, upon the opinions and statistics published by M. Pasteur, and upon experiments made for the Committee by the Secretary, Mr. Victor Horsley. Two rabbits inoculated by the originator of the method were brought back from Paris and kept at the Brown Institution, where, within a week, each developed the peculiar symptoms, of which the most notable is ascending paralysis, described as produced by rabies in those animals. The first step was to prove that this disease was communicable and was really rabies; four rabbits inoculated beneath the dura mater with the spinal cords of the Paris rabbits developed the same symptoms in six or seven days; four dogs similarly treated developed rabies in eight or nine days, and it is important to note that in two the disease took the furious form, while in two the paralysis was an early symptom, and the animals had the disease in the form termed "dumb" rabies. The converse experiment was also performed, and it was found that bites inflicted by dogs found in the streets suffering from furious or dumb rabies produced the paralytic rabies in rabbits; inoculation with the spinal cords of these dogs produced the same result. The only difference to be noted between the disease as produced in rabbits by M. Pasteur's virus and as produced by the virus of ordinary rabid dogs, was that, in the latter case, the period of incubation was longer (17 to 21 days), and that the symptoms also lasted longer (a week instead of three

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or four days). These differences were in accordance with the statements made by M. Pasteur.

The general result of the earlier experiments made by Mr. Horsley was to confirm the statement that the virus was contained in the spinal cord; that it could be transmitted without essential change by inoculation; that it was rendered more intense by transmission through rabbits; and that it might manifest itself either in the furious form commonly seen in dogs, or in the paralytic form usually observed in rabbits, or in intermediate forms, but that the disease was always the same—always true rabies.

Having thus cleared the ground and proved the correctness of M. Pasteur's preliminary observations, experiments were next made to test the claim that this virus could be so attenuated that it might be inoculated without danger to the animals, and that, when used after the prescribed manner, it afforded protection to dogs against the effects of subsequent inoculation with rabid virus. Upon this point Mr. Horsley's investigations afforded equally conclusive evidence. Emulsions of the spinal cords of rabbits which had died of rabies were injected subcutaneously into six dogs. The injections began with a cord which had been dried for fourteen days, and were repeated daily, using on each succeeding day a cord which had been dried for one day less, until at last a fresh cord was used. None of these dogs suffered from the injections. These six dogs, two unprotected dogs, and some unprotected rabbits were anæsthetized and bitten by rabid dogs or cats; the unprotected animals all died of rabies, while not one of the protected animals suffered from the disease. Mr. Horsley has thus been able to repeat the successes achieved by M. Pasteur.

In the following logical sequence of the report we have now reached the point of greatest practical interest, but where, unfortunately, the evidence becomes less direct and more inferential. The evidence afforded by comparing the mortality in persons who have, with that of those who have not, been treated by the prophylactic method, cannot be expressed in simple numerical terms, because the necessary data are not available with sufficient precision in all cases. In the first place, it is not always possible to ascertain whether the dog which inflicted the bite was really suffering from rabies; in the second place, the probability of infection varies as the bites have been inflicted through clothes or on the bare skin, with the amount

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of hæmorrhage which occurred at the time, the thoroughness of the local treatment, and with the condition and genus of the animal by which the bite is inflicted. Thus, taking in each case the lowest estimate, the mortality after dog-bites is 5 per cent., while that after wolf-bites is 30 per cent.

Professor Burdon Sanderson, Dr. Lauder Brunton, and Mr. Victor Horsley, who went to Paris in May, 1886, personally investigated the history of 90 patients residing in Paris, Lyons and St. Etienne, whose names appear consecutively on M. Pasteur's list. Full particulars of all these patients are given in an appendix; they appear to consist of a fair average set of cases; in 31 instanees there was no reliable evidence that the dog was rabid; in others the bites were inflicted through the clothes, but in 24 the patients had been bitten on naked parts by undoubtedly rabid dogs, and the wounds were not cauterized or treated in any way likely to have prevented the action of the virus. None of these 90 persons have died of hydrophobia. The Committee estimates that 8 would have died if the inoculations had not been practiced. This is the most precious evidence obtained by the Committee, but it would be difficult to over-estimate its value, and it is well worthy the great time and pains expended in obtaining it. No previous observers or critics have contributed any evidence of the kind, and it must be held fully to confirm the claims advanced by M. Pasteur. The other statistics given me are of a kind with which we are already familiar; taking the whole series of cases inoculated from October, 1885, to December, 1886, and using the lowest mortality ever estimated for untreated cases (5 per cent.), the Committee is of opinion that, "making fair allowance for uncertainties, and for questions that cannot now be settled, we believe it sure that, excluding the deaths after bites by rabid wolves, the proportion of deaths in the 2,634 persons bitten by other animals was between 1 and 1.2 per cent., a proportion far lower than the lowest ever estimated among those not submitted to M. Pasteur's treatment, and showing, even on this lowest estimate, the saving of not less than 100 lives."

It is also stated that it has been proved, either by inoculation experiments with their spinal cords or by the occurrence of rabies in animals also bitten, that in the cases of 233 persons bitten the dogs were indubitably rabid, yet only 4 persons died; whereas the Committee estimates that at least 40 would have died if the inoculations

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had not been performed. Even the cases of the 48 patients bitten by rabid wolves, of which so much has been made by M. Pasteur's opponents, are made to tell in his favor, for the Committee estimates that if untreated nearly 30 would have died, whereas only 9 actually succumbed. Further, it is stated that during the first three months of this year M. Pasteur had inoculated 509 persons bitten by animals proved to have been rabid either by inoculation or by the death of animals bitten, or so certified by veterinary surgeons. Of this number only 2 have died, and one of these had been bitten by a wolf a month before the inoculations were commenced, and died after 3 days' treatment. "From the evidence of all these facts," the report continues, "we think it certain that the inoculations practiced by M. Pasteur on persons bitten by rabid animals have prevented the occurrence of hydrophobia in a large proportion of those who, if they had not been so inoculated, would have died of that disease."

The report also deals with the question, raised mainly by v. Frisch in Vienna, and Lutaud in Paris, whether the inoculations of Pasteur may not themselves be responsible for the deaths of some of his patients. The Committee is of opinion that there is no evidence that any deaths have been caused by the first or ordinary method, but that since the "intensive" method has been used deaths have occurred under conditions which have suggested that they were due to the inoculations rather than to the infection from the rabid animal. The case of the man Goffi, an attendant at the Brown Institute, who was bitten on September 4th, was placed under M. Pasteur's care on the following day, but died on October 19th from acute ascending (motor) paralysis in St. Thomas's Hospital, rather tends to confirm this fear, for Mr. Horsley has found that he died of hydrophobia. The report favors the assumption that Goffi died of the virus of the cat by which he was bitten, chiefly on the ground that the period of incubation was longer than would have followed the inoculation of virus of the highest intensity. This statement, however, appears to go near to begging the whole question, for the matter in dispute is the behavior of the "intensive virus" in man, and a most important element is the duration of incubation. The unusual nature of the symptoms also requires explanation, for the suggestion that the cases hitherto described under the term "acute ascending paralysis," or "Landry's paralysis," are

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in many instances of the dumb or paralytic form of rabies in man, rests upon this single observation of Mr. Horsley's, and ignore the fact that a large proportion of such cases recover. That M. Pasteur himself shares to some extent the apprehensions which have been expressed is shown by the fact that he has already modified his intensive method; instead of using a whole series of fourteen cords, from fourteen days to one day old, during the short period of seven days, followed by six other injections on the four following days, again ending with a cord only dried for one day, he now spreads the injections over fifteen days, and the most virulent cord used has been dried for five days.

The practical conclusion at which the Committee has arrived is, that until police regulations of the most stringent kind can be enforced with complete success, there will always be a considerable number of persons who will require treatment by the method of M. Pasteur. During the ten years ending 1885, the annual average of deaths from hydrophobia was 43, and this probably represents a total number of over 800 persons bitten by rabid dogs; it is not possible to say which, among this whole number, are not in danger of hydrophobia. Police regulations applied over the whole of Great Britain would very materially diminish this number, but the Committee is of opinion that to be effective, the regulations must require (1) the destruction of all wandering, ownerless dogs; (2) discouragement of the keeping of useless dogs by taxation or other means; (3) prohibiting importation of dogs from countries where rabies is prevalent, or the imposition of quarantine; (4) compulsory use of muzzles in districts where rabies is prevalent.—*British Medical Journal.*

Dr. N. M. Shaffer has expressed the belief that supposed syphilitic joint disease is often in reality a tubercular disease influenced by a syphilitic heredity. He thinks that syphilitic joint disease, *per se*, is very rare in childhood, and that the great majority of cases were tubercular. Mercury bichloride, persistently administered for a long time, he says, is about as efficient in the tubercular as in the so-called syphilitic disease.—*New York Medical Journal.*

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SEPSIS AND ANTISEPSIS IN SUMMER DIARRHŒA.

By Silas Allen Potter, A.M., M.D., Roxbury, Mass.

Writers upon summer diarrhœa appear to be agreed that fermentation holds an intimate relation to the disease. Dr. H. C. Haven says: "It will, I think, be universally admitted that, in its totality, summer diarrhœa of infants is a zymotic or fermentative disease." Maximilian Herz states, in regard to cholera infantum: "It is pretty generally admitted that putrefaction of food, as Baginsky maintains, is an important cause of cholera infantum." J. Lewis Smith writes, of infantile diarrhœa of summer: "Undoubtedly one of the most important causes is to be found in the very free exhalations arising from decomposing animal and vegetable matter during the heated term, and the disease is always most frequently met with in those localities where the accumulation of filth is the greatest."

It is the object of this paper to collect the more important facts about fermentation, and consider their relation to the disease in question.

The terms sepsis and antisepsis we wish to employ in a broad sense, to indicate, on the one hand, injurious effects resulting from micro-organisms; on the other, influences adverse to the life or activity of micro-organisms.

The alcoholic fermentation is produced chiefly by the yeast fungus, torula cerevisiæ; the lactic-acid fermentation, chiefly by the bacillus lactis; the butyric-acid fermentation, chiefly by the bacillus butyricus. Of these three processes it may be affirmed that the principal organism concerned in their production has been determined. This certainty has been reached by the isolation of the organism, the introduction of a pure cultivation into an appropriate sterilized medium, and the obtaining of the proper chemical decomposition.

Other fermentations, such as the acetic, ammoniacal, viscous, putrid, have not been studied with the accuracy which the later methods of research permit. Though due to bacterial action, it is impossible to designate a particular organism as their sole or chief cause. The micrococci found in putrefying material are yet undifferentiated, and the bacterium termo, believed by Cohn to be the essential cause of putrefaction, has already been proved to be a

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name covering more than a single variety of organism. It is not improbable that the same may be shown to be the case with the micrococcus ureæ, micrococcus aceti, and others.

However, it is not so much with the particular organism producing these various changes that we are now concerned, as with the grand fact that the cause of fermentation and putrefaction is vital. "Micro-organisms," writes Carl Fraenkel, "are the producers of fermentation, and, what in the economy of nature is a still more important part to play, are the cause, and the only cause, of the putrefaction of organic substances."

When it was proved that it was the exclusion of bacteria from a wound that averted the traumatic infective diseases, a scientific basis was at once given to antiseptic surgery. If we believe that summer diarrhœa in a vast number of instances would not occur but for fermentation, then a recognition of the cause of fermentation is the initial step in our understanding of the disease.

It is not claimed that, in defining the chief morbid process, the ultimate cause of the disease has been demonstrated. It is well known that bacteria are constantly present in the digestive tract in health. It is even possible that they are useful there. Before reaching the ultimate cause the question must still be answered, why these organisms, at one time subject to the control of the body, become at another productive of disease?

The action of fermentative organisms in causing diarrhœa is probably indirect, the more immediate agent being substances produced by the microbes through the decomposition of the fluids in and upon which they live.

According to Fligge, the chief products of bacterial action are: Gases, as CO_2, H, CH_4, HS_2, NH_3; water; sulphur; volatile bodies, as trimethylamin, alcohol, formic acid, acetic acid, butyric acid; fixed acids, as lactic, malic, succinic, oxalic, tartaric; sulpho-acids, as taurin, amides of the fatty acids, especially leucin, alansin; bodies of the aromatic series, as tyrosin, phenol, cresol; reduction-products, as indol, hydroparacumaric acid; complex molecules, as carbohydrates, pepton, hydrolytic ferments; coloring matters and poisonous alkaloids.

Of these substances two classes, some members of which at least are produced by the bacteria of fermentation, are interesting in the study of diarrhœa—the acids and the poisonous alkaloids.

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Acids can excite diarrhœa by immediate irritation of the mucous membrane of the bowel; the alkaloids indirectly, by a systemic effect. The simpler, less violent cases of diarrhœa can often be traced to the irritation of undigested food and the acid substances produced in its fermentation; the more sudden and violent cases seem often to call for the agency of a poison.

It was long ago noticed that serious illness oftentimes followed the eating of decomposing meat, fish, or cheese.

Kerner was the first to suspect that alkaloids were formed by the decomposition of albumen, and in 1820 called attention to the similarity between the poisoning by sausages and atropia.

Panum, in 1856, demonstrated that putrefying substances often contained poisons which, when injected into animals, caused death. That death was not due to the activity of bacteria in the body, he showed by sterilizing the fluid before injection. He also proved that the inflammatory changes in the intestinal mucous membrane of animals poisoned with putrid material was not caused by the bacteria in the putrid fluid, but by chemical substances which retained their character even after boiling.

Selmi, of Bologna, gave to these alkaloids formed by the decomposition of proteids the name of ptomaines.

Nëcki, in 1876, first obtained ptomaines in a pure form and determined their chemical symbols.

Brieger, however, in 1885, produced the most important results which have been obtained in this branch of investigation. From putrefying meat Brieger isolated three alkaloids which he called neuridin ($C_5H_{14}N_2$), neurin ($C_5H_{13}NO$), and cholin ($C_5H_{15}NO_2$). From putrefying fish he obtained muscarin ($C_5H_{15}NO_3$), gadanin ($C_7H_{17}NO_2$), and a base allied to ethylin-diamin ($C_2H_4(NH_2)_2H_3O$). From decomposing gelatine he separated neuridin, muscarin and dimethylamin. Of these, neuridin is most constantly present in commencing putrefaction. The existence of the others seemed to depend, in some degree, upon the kind of material undergoing decomposition. From putrefying human bodies Brieger obtained several substances of alkaloidal character—neurin, cholin, cadaverin ($C_5H_{16}N_2$), putrescin ($C_4H_{12}N_2$), saprin ($C_5H_{16}N_2$), trimethylamin ($(CH_3)_3N$), dimethylamin, triethylamin, mydelain and a substance of undetermined composition.

The physiological action of these various compounds differs

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widely. Some, as neuridin, cadaverin, putrescin and saprin are either harmless or must be injected in very large dose to produce toxic symptoms; others are violent poisons. Of the latter, there are five which bear an important relation to the study of diarrhœa—neurin, muscarin, cholin, mydelain and the substance whose composition was not determined. The action of the first three is essentially identical, the most important symptoms produced by a fatal dose being salivation, vomiting and diarrhœa, dyspnœa, paralysis and death. Mydelain, when injected into guinea-pigs, even in the very minute quantity of three-fortieths of a grain, causes profuse secretion from the eyes, nose, mouth and intestine, dilated pupils, exophthalmos, an increase of temperature, paralysis, fibrillary twitching of muscles, dyspnœa and death. In cats the symptoms did not essentially differ, diarrhœa being prominent as before. The substance of undetermined composition, when injected into rabbits and guinea-pigs, caused excessive peristalsis and exhausting diarrhœa. In general, it may be said that most of the alkaloids which have been obtained by the decomposition of albumen have a tendency to produce diarrhœa.

It does not follow, because ptomaines capable of exciting diarrhœa are formed outside the living human body, that they are formed likewise within. There are, however, strong reasons for believing that such may be the case.

Substances capable of putrefaction exist in the digestive canal. Of such the most common in children is milk, but no article of food can be assumed to be absent in either adults or children. In many cases, besides food, there will be mucus, serous exudation from inflammatory surfaces, blood, pus or sloughs.

The micro-organisms which accompany putrefaction, and are believed to be its cause, are present in the digestive tract. Johnston, in the examination of the vomitus of seventeen breast-fed infants affected with summer diarrhœa, found invariably micrococci and what is known as the bacterium termo. In diarrhœal fæces he discovered innumerable bacteria, especially of the varieties mentioned. Since bacteria exist in the digestive tract in health, it must be supposed that while digestion is being normally performed the conditions are unfavorable to the multiplication of organisms. Spallanzani found that when substances in which putrefaction had begun were introduced into the living stomach the process was

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checked. We may suppose that, in order to initiate fermentative changes, organisms enter the body in uncontrollable numbers, or that the digestive function is in whole or in part suspended.

The products of fermentation are found. With the sour vomitus and the acrid or foul stools of summer diarrhœa all are familiar. The search for alkaloids in diarrhœal excrement has probably not been made; but such have been found in healthy fæces, and that freshly voided fæces are poisonous has been proved by Bouchard. It is probable that the amount of poisonous alkaloids formed in disease is greater than in health, and also that their amount and the conditions under which they are produced render them less subject to the eliminative action of the body.

What is known of ptomaines throws light upon certain obscure conditions arising in summer diarrhœa. There are cases of cholera-infantum in which violent symptoms are followed by a speedy death, and yet no appearances adequate to explain the result are revealed by the autopsy. There are also cases of diarrhœa, some acute, others subacute, which a few hours before death show, with the condition called hydrencephaloid, a rise of temperature. The nervous symptoms may be referred to exhaustion. It is difficult, however, to explain the increase of temperature by either exhaustion or a fresh inflammatory process begun in those last few hours of life. It seems more reasonable to believe that in both this case and the former a septicæmia has been induced by the products of putrefaction, either absorbed from the digestive canal or generated in the exhausted tissues of the body.

It is easily remarked that in no case of summer diarrhœa do the symptoms correspond completely with those following the administration of a given ptomaine to an animal. Of this an explanation is offered by the fact that it is impossible for a single ptomaine to exist alone in the digestive canal, since both the albuminoids and organisms present are various. Moreover, different ptomaines, though they may have similar, may possess antagonistic powers, so that the effect of any one may be modified or even neutralized. It is therefore impossible to predict with exactness, from experiments outside the human body, what the action of the alkaloids of putrefaction will be when formed within the human body.

Many of the expedients which have been found useful in the

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treatment of summer diarrhœa possess some element unfavorable to the growth of micro-organisms.

The removal of a child from the city to the country or seashore is, in high degree, an antiseptic measure. Investigation into the bacterial contents of the air and earth show that micro-organisms diminish in number as we rise from the surface of the earth, as we penetrate beneath it, and as we go out upon the sea. They are absent in the high Alps, absent or very scarce in the lower strata of the soil, and absent, so far as investigation has gone, in the sea air a thousand miles from land. In the Rue de Rivoli, on the contrary, in the centre of Paris, there are ten times as many microbes in the air as at the fortifications without the city, and at Montsouris Observatory the north winds blowing over Paris bring many more microbes than the south winds from the country. The most impure come from the hills of Villette and Belleville, populous quarters in which also are cemeteries and slaughter-houses. In other words, where there is decomposing organic material there are bacteria, and the greater the amount of the one the larger the number of the other. What is true of air is true in a higher degree of water. Condensed aqueous vapor has been found to contain 900 bacteria to the litre; sewer-water from Clichy, eighty millions. It is where human beings are crowded together in large numbers that the greatest consumption and excretion of organic matter takes place. It is here, therefore, that the widest necessity exists for those retrograde processes which it is the peculiar province of fermentative organisms to affect. We are justified, therefore, in looking upon filth and sewage as the grand culture medium of fermentative organisms, the special soil in which flourishes the cause of summer diarrhœa. Removal from this contaminated environment would therefore be demanded by theory and is approved by practice. It is readily seen, however, that the advantage which the country naturally possesses over the city can be nullified for any particular place by unhygienic local conditions. The insufficient drainage of a country town, the cess-pool under the window of an isolated farm-house, create the same danger which is encountered in the midst of dense population. It is, in all cases, the proximity of decomposing organic material which is to be avoided, its absence which is to be desired.

The transferrence of a child from the bottle to the breast is an

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antiseptic measure. Milk as it comes from the breast is free from organisms, and human milk, even when allowed to stand exposed to the air, will, according to Baginsky, resist fermentation a number of hours longer than cow's milk.

The heating or boiling of milk is an antiseptic procedure. The ancients used to quench flints in milk to render it more serviceable in the treatment of diarrhœa. Household observation has taught that boiled milk keeps. The more exact studies of the laboratory have shown that an exposure to the temperature of boiling water for a few seconds in a moist medium will kill all bacteria, while a continuance of this temperature, under the same condition, for fifteen to thirty minutes, will destroy their spores. A fermentescible fluid, thus sterilized, will remain unchanged until bacteria are once again admitted. To completely sterilize milk is hardly compatible with the conditions of a nursery. An approach to this can, however, be effected by boiling milk in the same bottle from which it is to be afterward nursed. The bottle should be stopped with cotton before boiling, and the stopper removed only when the milk is required for use. Experiment has shown that milk thus prepared will keep sweet in a warm room for twenty-four hours, while unboiled milk, standing in a pitcher by its side, will in that time have become sour and coagulated. To thus defer for a few hours the capability of milk to ferment may be all that is required in the treatment of some of the minor cases of vomiting and diarrhœa in infants.

All means for emptying the digestive tract, either by withholding food or by giving evacuants, have an antiseptic value. On the other hand, micro-organisms are deprived of the material necessary for their growth; on the other, both organisms and their products are swept away. Evacuants have from a remote period been held in favor in the treatment of diarrhœa. The Greek physicians used mild laxatives to remove the "peccant humors" from the system, and Piso, who introduced the use of ipecac for its emetic and cathartic effect in the fluxes, described it, in his extravagant language, as "a sacred anchor and most exquisite gift of nature."

Various drugs have been used to produce disinfection of the digestive tract. Of these, the most powerful is corrosive sublimate, and they range in strength from this down to borax or salicylate of sodium. To determine the comparative value of these in the treat-

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ment of summer diarrhœa does not at present seem possible. It would appear that the value of a particular drug does not depend upon the precise grade of its antiseptic power. A milder antiseptic may, all things considered, be more valuable than a stronger one. Nor does it seem probable that absolute antisepsis of the digestive tract is either possible or necessary. The fact that the processes of digestion in health are conducted in the presence of bacteria leads us to think that nature controls the micro-organisms. It is probable that she can do something for herself in most cases of disease. The part of medicine is so to modify unfavorable conditions as to restore to nature the control which she had previously lost.

The main positions advocated in this study of summer diarrhœa are:

1. That micro-organisms bear an important causal relation to a large proportion of cases of summer diarrhœa.

2. That antisepsis of the digestive tract is an essential element in the treatment of the disease.

3. That in antisepsis must be included not only the use of drugs, but also the establishment of all conditions known to be unfavorable to the life and activity of micro-organisms.

4. That, in order to a more scientific use of antisepsis, we require more adequate information as to what organisms are concerned in the production of fermentation, their life-history, and the conditions favorable and unfavorable to their growth.—*Medical Record.*

PRECOCIOUS GUMMATA.

The close and widespread study of syphilis within the past fifteen years has conclusively shown that the old and dogmatic division of the disease into three sharply marked periods must soon be very much modified, or perhaps even discarded, and that, although the terms primary, secondary and tertiary, as applied to stages of syphilis, present the advantage of clearness and simplicity in study and description, and may even be clinically true as regards a large number of cases, yet there are very many in which such a division is inappropriate, since we observe in some the so-called tertiary lesions in the secondary period; in others seemingly secondary lesions in the tertiary

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period, and perhaps coexisting with well-marked lesions of that period; or, again, cases of tertiary lesions concomitant with secondary lesions. To hold, then, that superficial lesions belong to, and are only found in, the early or secondary period, and that they are followed later on by lesions involving the tissues more profoundly, is in reality to sacrifice facts for simplicity of description.

Though there exist comprehensive descriptions of precocious nervous, osseous, articular, ocular and superficial ulcerative dermal affections due to syphilis, a systematic description of the clinical history of precocious gummata is wanting. In the *American Journal of the Medical Sciences* for July, Dr. Robert W. Taylor presents the clinical histories of a selected number of his cases, from which he traces a clear and satisfactory description of these not common nor yet infrequent eruptions. His studies convince him that there are three forms of the precocious gummata: The first, the generalized form; the second, the localized form; and the third, the neurotic form, which in some of its features resembles erythema nodosum. Of each of these three forms, moreover, there are two varieties: a resolutive, or non-ulcerative, and an ulcerative variety.

The clinical history of the generalized form of precocious syphilide is as follows: As early as the eighth week of infection the patient notices either small circumscribed swellings under the skin, generally unattended with pain, and only perceptible to the touch, or this stage may escape him, and his attention is at first arrested by a number of bright red spots. These gummata are found to be round tumors of the size of a bean, deeply set in the skin, having a bright red color, which at the first is dissipated by pressure, but becoming deeper, more sombre and permanent in color later on. They increase peripherally quite rapidly, so that within a week or ten days they may attain an area of an inch or an inch and a half. In general a goodly number of tumors appear scattered symmetrically over the whole body. As they grow they are followed by new ones which come along with greater or less rapidity, in proportion as internal medication is pushed. If appropriate treatment be instituted, the first crop may be the only one. Unaffected by medicine their evolution continues, and in a fortnight the arms, forearms, perhaps the scapular region, not infrequently the back and anterior surface of the trunk, the gluteal regions, thighs and legs are invaded by these tumors.

The course of these gummata is, in general, quite regular and not

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subject to great variation. When developed they present a quite firm sensation, and this may be termed the period of condensation. As they grow older the red color becomes rather coppery, and while the periphery of the tumor may or may not seem firm, the central portions appear softer to the touch, conveying the impression that the tissues are permeated with a thick fluid. This we may denominate the stage of softening. In the majority of the cases there is not abscess formation, but rather a liquefaction of the gummy infiltration, which is, in general, promptly absorbed. The time occupied in the full development of these tumors is usually from ten days to two weeks, and after that their period of duration is variable.

In the ulcerative variety, the stage of condensation is very short, and softening in a marked degree is observed in a few days. The centre of the tumors assumes a dark red color in one or in several spots, and a sensation of fluid under the epidermis is distinctly made out. Then slight ulceration may occur in spots, often at the openings of the hair and sebaceous follicles, and very soon the epidermal roof of the tumor melts away, and we soon see the gummatous ulcer, with its slightly thickened, reddened, undermined, and perhaps everted edges, and its floor of a greenish-red, bathed in an unhealthy sanious pus.

In the localized form, the clinical history is similar to that preceding. The clinical history of the neurotic form has an individuality of its own. In the very early months of the diathesis, either in the stationary period of an early syphilide or at its decline, generally preceded or accompanied by severe neuralgic symptoms involving any cutaneous nerve, by severe cephalalgia, continuous or nocturnal; by rheumatoid pains in muscles or joints, and by general malaise and debility, this eruption makes its appearance with more or less promptitude and develops quite rapidly. In some instances the invasion is very acute, so that at the end of a week we may find fully developed tumors an inch or two long, in others and in the majority of instances the development is slower, and nearly two weeks elapse. Besides the general neuralgic symptoms, local pains on the site of the lesions or in the whole territory on which they are developed are experienced. These may be continuous or intermittent, and in some cases are as excruciating as in severe herpes zoster.

The eruption consists of two orders of lesions; first, tumors or nodosities seated in the subcutaneous tissue, and freely movable under the skin and over the fasciæ, though as they increase they

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may contract adhesions on both surfaces; second, oval or round tumors, or irregular plaques from fusion of tumors. The appearance and cause of the tumors are fully described.

In all cases of precocious gummata the use of iodide of potassium is indicated, either combined with a mercurial or with the use of inunctions of mercurial ointment.—*Amer. Jour. Med. Sciences.*

THE DIAGNOSTIC VALUE OF EPISTAXIS.

Nosebleed occurs with greatest frequency in childhood, from the age of six or seven years up to puberty, and after that time becomes more rare. Boys seem to be affected more often than girls, a fact for which no satisfactory explanation has been offered, unless, perhaps, greater exposure to traumatism can be invoked. After puberty, however, the periodical loss of blood at the catamenia may secure a certain immunity in the case of women. Epistaxis occurring in childhood is more frequently idiopathic, while in adult life and old age it is usually symptomatic of some abnormal condition, leaving out of consideration traumatism, although even this is more efficient as a cause in childhood than it is in later life.

Since nosebleed is so often, in adults, only a symptom of some other condition, it not infrequently possesses considerable diagnostic and prognostic value, and we propose to consider, briefly, the phenomenon in its semeiological relation to various diseases, reserving for another occasion the discussion of its value in prognosis.

Obstinate and long-continued hemorrhage from the nose, coming on after a fall or a severe blow on the head, points, with considerable definiteness, to fracture of the base of the skull, involving the wall of the superior nasal fossæ. This diagnosis is rendered almost absolutely certain if the fluid escaping from the nostrils becomes watery and light-colored, from gradual admixture with cerebro-spinal fluid. The mistake must not be made, however, of jumping to a conclusion that a fracture exists, simply because epistaxis is present, for hemorrhage may be induced by the concussion, while the bones at the base of the skull remain intact. The bleeding in such a case is usually neither profuse nor of long duration.

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Repeated attacks of nosebleed without apparent cause, especially if obstinate hemorrhages from other parts arise on slight provocation, would suggest the possibility of hœmatophilia, and should lead the physician to inquire carefully into the family history of the patient, and more particularly into that of the male members of the family on the maternal side. Frequent hemorrhages may, however, be due to the presence of a small ulcer in the nasal mucous membrane, and the precaution of examining the nares in such cases should never be omitted.

The occurrence of epistaxis is often a sign of considerable diagnostic importance in typhoid fever. In measles, also, it is not uncommon at the beginning of the disease, while it occurs but seldom in scarlet fever and in rubella. It is common in anæmia and chlorosis, in malaria and in various cachexiæ. Nosebleed may also point to disease of the vascular system. Abnormal thinness of the walls of the capillaries, atheroma, and the changes due to syphilis or alcoholism are the principal alterations observed.

At the meeting of the Academy of Medicine of Paris, held on April 26th, M. Verneuil read an interesting communication on the influence which certain diseases of the liver may have in the production of epistaxis, in which he claimed that nosebleed was often an indication of hepatic disorder, supporting his assertions by a recital of the curative effects of blisters applied to the right hypochondrium. This is not a new observation, for Galen speaks of the value of cupping over the hepatic region in arresting nosebleed, but it is a point that is not insisted upon as much as it perhaps deserves. Martineau, in his article on epistaxis, in Jaccoud's "Dictionnaire de Médecine," regards the occurrence of nosebleed as a symptom of great value in cases of doubtful hepatic disorder, and he agrees with Monneret that epistaxis always occurs at some period during the course of the disease of the liver, of whatever sort it may be. This is, perhaps, rather too sweeping an assertion; but, nevertheless, intercurrent attacks of hemorrhage from the nose are of remarkable frequency in diseases of the liver, and should be taken into account in the diagnosis of obscure cases. We may say, therefore, that, if ascites be present and its cause be not apparent, the supervention of attacks of nosebleed would lend very strong probability to the assumption that the serous effusion was due to obstructed portal circulation from liver disease. In cases of epistaxis occurring as a consequence of obstruction in visceral disease, the blood is not infrequently of a venous hue. This may also be of some service from a diagnostic point of view.—*Medical Record.*

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., " } Editors.

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THE MEDICAL EXAMINERS' LAW.

Frequent inquiries have reached us, directly and indirectly, concerning the construction of the laws regulating the practice of medicine in North Carolina since the passage of the amendment of 1885, and there is some confusion in regard to the status of physicians in practice in the State. Previous to 1859 no barrier existed to the assumption of the responsibilities of the practice of medicine, and any one who felt disposed to offer his services as a physician could do so, and no question was made as to his right or qualifications. The members of the State Medical Society, comprising

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many, if not all, of the leading physicians in the Commonwealth, saw the injury that was resulting to the good name of the profession and to the safety of the public in this unregulated state of affairs. At their instance, the Legislature of 1859 passed a law which provided that no one "should practice medicine or surgery, nor any of the branches thereof, nor in any case prescribe for the cure of disease for fee or reward," unless licensed by the Board of Examiners, for the appointment of which the law made due provision. Of course all practitioners of medicine of that date were exempted from the action of this law, and these men constitute what we shall designate as class A—that is, they were entitled to all of the fees they could collect and to the privileges of physicians, whether they were in possession of a diploma or not. The law of 1859 provided that any physician offering his professional services to the public after the passage of the act, and without first obtaining a license from the Board of Examiners, should not be enabled to collect by law such fees as he should charge for his services, but his failure to obtain the license by special provision, was not a misdemeanor. These then constituted class B—men who were not liable to indictment for a breach of the laws of the State, but were disabled in the attempt by civil action to collect any monies due them for services rendered.

This state of affairs lasted until 1885, when the proviso protecting all persons beginning the practice of medicine without license from liability to criminal indictment was repealed, and the law was amended to read as follows:

"Sec. 3132. Practicing Without License. 1858–'9, c. 258, s. 15:

"Any person who shall practice medicine or surgery without having first applied for and obtained license from the said Board of Examiners, shall not be entitled to sue for or recover before any court any medical bill for services rendered in the practice of medicine or surgery, or any of the branches thereof. And any person who shall begin the practice of medicine or surgery in this State for fee or reward, after the passage of this Act, without first having obtained license from said Board of Examiners, shall not only not be entitled to sue for or recover before any court any medical bill for services rendered in the practice of medicine or surgery, or any of the branches thereof, but shall also be guilty of a misdemeanor, and upon conviction thereof shall be fined not less

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than twenty-five dollars nor more than one hundred dollars, or imprisoned, at the discretion of the court, for each and every offence; *Provided*, that this Act shall not be construed to apply to women who pursue the avocation of a midwife; *And provided further*, that this Act shall not apply to regularly licensed physicians or surgeons resident in a neighboring State.

"*Provided*, that this section shall not apply to physicians who have a diploma from a regular medical college prior to January the first, one thousand eight hundred and eighty." [See Acts of 1885, chapters 117 and 261.]

This changed the status of class B in this much, that it relieved of the disability to collect fees by law all of those physicians who had begun the practice after 1859 and prior to January the first, 1880, and placed them on the same footing as the members of class A, except that those included in class B must have had a diploma from a regular medical college, bearing date before the beginning of the year 1880. These, then, constitute class B. Class C will comprise the practitioners without license, beginning the practice after the above-mentioned date and before the passage of the amended act of 1885, and these persons are unable to collect bills by law, though they are not liable to indictment.

Class D is composed of such persons as have begun the practice since February, 1885, and without a license from the Board the possession of a diploma from a regular medical college will not cure the liability of the person to indictment for misdemeanor, and upon conviction, the infliction of the fine and imprisonment as provided in the statute.

To sum up, then, we think the following is a full statement of the status of the physicians in North Carolina:

Class A.—Physicians actively engaged in professional work before 1859, can collect fees by law, and are not liable to indictment, whether in possession of a diploma or license or not.

Class B.—Physicians in active practice before January the first, 1880, if in possession of a diploma from a regular medical college, can collect fees by law and are not liable to indictment.

Class C.—Physicians entering the profession after January the first, 1880, and practising without a license from the Board of Examiners, cannot collect fees by law, but are not liable to criminal indictment.

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Class D —Physicians beginning the practice of medicine (and this is meant in these classifications to include surgery and its branches and those of medicine) after February, 1885, unless authorized by the license of the Board of Examiners, cannot collect fees by law, and are liable to indictment for misdemeanor, and upon conviction, to the punishment provided for the violation of the law.

It is the interest and duty, it appears to us, of all good men in the profession to give this law their full support and countenance; for it protects them from the competition of quacks and persons unqualified to practice medicine, and stands a guardian to the lives and well-being of the people at large to ward off the dangers that must attend the attempts of ignorant pretenders to cure disease or administer to the injured. There is lacking in this law some provision which shall make it the duty of the legal officials to see that the law is complied with, and infractions upon it punished, and due provision should be made for this at a future day.

So far as eligibility to seats in County Boards of Health is concerned, we think, according to the law creating the general and auxiliary boards, only those physicians are entitled to membership in these bodies who come in classes A and B. In class C all physicians practising without license are ineligible, and of course those of class D, who are barred by the statute from practice until licensed by the Board of Examiners, are *ipso facto* barred from seats in these health organizations.

SYPHILIS FROM A CIGARETTE.

We have had an opportunity of seeing a case of syphilis now in the secondary stage, which, to all appearance, was contracted from a cigarette. The patient, a healthy man, in some way blistered his lip while smoking a cigarette, and in this spot a small sore located itself, which rapidly healed under treatment, but left behind extensive and marked specific induration. The man had been under the care of an irregular physician, who treated him for blood-poisoning, without indicating its venereal character, and the treatment had been entirely local. When he came under our observation there was a characteristic rash on his body and lower limbs, and the lip

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was swollen—painful and somewhat inflamed, and there was involvement of the cervical and sublingual glands. He is now suffering with syphilitic glossitis, and has slight falling of the hair. The rash has disappeared under mercurials. There has been no indication of infection about the genitals, and the date of last exposure before the outbreak of symptoms adds to the certainty of the opinion that the poison was introduced from the cigarette through the excoriated spot on the lip. The case is possessed of interest on this account, and bears a lesson with it that is apparent.

THE AMERICAN JOURNAL OF SYPHILOGRAPHY AND DERMATOLOGY.

We acknowledge with pleasure the addition of the above journal, in five volumes, substantially bound, as a gift from the accomplished editor, Dr. M. H. Henry, of New York. This valuable quarterly was begun in 1870, and concluded in 1874. A postscript to the last volume, in the handwriting of the editor, is: "This is the last page of '*The Journal.*' It terminates five years devotion—hard work, no compensation beyond the good accomplished in securing attention to, and a study of, the diseases of the skin." This work truly did a good service in inspiring new zeal in the study of dermatology, going a great ways in laying the foundations upon which the American school of dermatology is now building so successfully.

These volumes contain many valuable papers which are worthy of record, and as a part of our reference library we shall esteem it highly.

The accomplished editor is not alone in his experience in giving "hard work without compensation" to the profession, and the editors of by far the majority of medical journals in this country have experience similar to this, and by such sacrifices the science and art of medicine in this country have been advanced to an honorable position, and it must be no little gratification to realize that one has taken an active part in such honorable employment. Our esteemed friend must in this see his reward, and rest assured of the thorough appreciation of his contemporaries.

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WE OFFER TO OUR READERS an interesting and instructive letter from Dr. W. B. Pritchard, now of New York, but lately of this State. The Doctor's position in the profession in North Carolina was one he has reason to be proud of, and he has carried with him to his new field of labor the good wishes and bright expectations, on the part of his many friends, of a useful and honored career.

SURGICAL INTERFERENCE IN CANCER.—The learned editor of the New York *Medical Record* concludes a very able paper in reference to surgical interference in cancer as follows: (1) Cancer is essentially a local disease, and can be cured by operation in spite of recurrence. (2) Operation, when it does not cure, prolongs life and diminishes the total amount of suffering. (3) Operations should be repeated as often as there is any chance of removing recurrent growths. (4) The disease, when it recurs, is generally of a milder type than that of the original growth, less painful and less exhausting. (6) Antiseptic surgery makes more radical operations possible, with better results than formerly obtained.—*American Practitioner and News.*

ANÆSTHETICS DURING PARTURITION.—Dr. Fordyce Barker says that "during the past thirty-seven years I have rarely attended a woman in confinement without the use of chloroform, never where she has suffered considerable pain. Having thus used it in several thousand cases, I unhesitatingly assert that in not a single case have I ever found cause to regret its use.—*Boston Medical and Surgical Journal.*"

PAINS OF MENSTRUATION.—For the relief of the violent pains that in some women precede the menstrual flow, Dr. Meniére, of Paris, gives a warm water enema containing 30 grs. of chloral and 30 grs. of bromide of potassium. For young women one-half of the above quantities should be prescribed.—*Amer. Prac. and News.*

A WRITER in an exchange says that in experiences in Colorado and Utah he never saw an Indian with a cold. He concludes that it is our hot rooms that give us colds.—*American Practitioner and News.*

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REVIEWS AND BOOK NOTICES.

THE ALIENIST AND NEUROLOGIST FOR JULY.

We have desired to notice the work contained in this excellent quarterly more frequently, and now call attention to the July number.

The opening article is "Notes on the Pathology of Idiocy," by A. W. Wilmarth, M.D. This is a second paper on the subject by the same author. Among other interesting things, he finds the average weight of the brain of 27 idiots examined 37.5 ounces. The average weight of the cerebrum 32, the cerebellum 4.65 ounces. Counting only those known to be congenital, the weight of the brain was only 33 ounces. The weight of the cerebellum is to that of the cerebrum as 1 : 6 13-15, or, if we count only congenital, we find the ratio to be 1 : 6, instead of 1 : 8 1-7 to 1 : 8 4-7 assumed by Sharpey to be the normal ratio of cerebellum to cerebrum.

The second paper is a continuation of the lectures of Professor Bianchi on the "Origin of Language."

The editor, Dr. C. H. Hughes, contributes an article on "The Scientific Rationale of Electrotherapy." It is an honest and scientific endeavor to place before the reader the practical employment of electricity as a therapeutic agent. He considers his subject under the following heads: Chemical and Physical Changes in the System, Induced by Dynamic Electricity; Effects on Nerves and Fluids; Chemical Effects—Electrolysis; Its Power to Coagulate Blood; Galvano-Cautery; Action on the Nervous System.

We pass over the next few articles—"A Case of Intermittent Epileptic Aphasia," "Genius not a Neurosis," "Inter-communications of Delusions by the Insane," and "Observations on Reflex Nervous Disturbances," etc., to consider the article (2d of series) on "The Relation of the Nervous System to Hæmophilia, Malarial Hæmaturia," etc., by Dr. C. H. Hughes.

"Whatever other pathological co-existences may be found, neuropathic or otherwise, in any case, I believe the essential pathology of this disease is in defective central action on the part of the vasomotor center, a view which Oliver accepts only in part. A defective blood condition as to its fibrinous constituents and coagulability

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may precede or follow hæmophilia; but this is certainly not an invariable, or even a common, causative condition.

What is true of hæmorrhaphilia is true, in part at least, and in the chief part, we think, of hæmorrhagic malarial fever, of purpura hæmorrhagica and certain erythemas, the two latter, according to E. Wagner, being closely related.

In simple purpura and urticaria hæmorrhage takes place in the skin only. In malarial hæmaturia the sanguineous exudate is chiefly into the stroma of the kidneys, the malpighian tufts and the tubuli uriniferi; but wherever it is, though the more remote cause may be malarial toxæmia, the immediate is in the lost vaso-motor control that allows arterial dilatations and permits of the fatal pressure of passive congestion and sanguinuric excretion.

Dr. W. Allen Jameison, lecturer on diseases of the skin in the Edinburgh School of Medicine, in a review discussion of purpura and erythema, in the *Edinburgh Medical Journal* for March, expresses the common feeling on this subject when he asks: Why in certain cases of tubercular erythema hæmorrhage occurs so constantly, so quickly and so severely? and answers that it cannot be answered by the youth of the patients, nor from their anæmic conditions; and concludes that some hitherto unknown cause exists, as in hæmorrhagic small-pox. That hitherto unexplained cause is the paralysis of vaso-motor control.

A thoughtful and observant writer in the *Texas Courier-Record of Medicine*, Dr. James A. Abney, of Tufkin, Texas, writing on malarial hæmaturia, strikes the true pathology in his second proposition, that, following the preëxisting toxæmia, "the resulting pathological condition is one of vaso-motor depression, with consequent vascular expansion."

A survey of other fields of clinical observation, for which we have here neither time nor space, serves to confirm the conviction enunciated by us years ago, that the neural pathology is destined to reign preëminent in medical thought."

The article on the rare affection (bi-lateral) Athetosis, by Dr. Hughes, is illustrated, and is a valuable contribution to this much discussed ailment.

The editorial department and the selections are conducted with ability. Although this journal treats of a class of diseases not as

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interesting as some other departments of medicine, we commend it to all such readers, in the belief that a careful perusal of its pages will excite an interest and instruct in diseases which the general practitioner may not like, but which he certainly cannot avoid if he does his whole duty.

ON THE PATHOLOGY AND TREATMENT OF GONORRHŒA AND SPERMATORRHŒA. By J. L. MILTON, M.D., Senior Surgeon to St. John's Hospital for Diseases of the Skin, London. Octavo, 484 pages. Illustrated. Price, bound in extra muslin, $4.00. New York: William Wood & Co.

The author is already well known for his treatise on Gonorrhœa, and his reputation is that of a thoroughly candid teacher, who speaks his mind and from fullness of experience. Much of the wavering faith of the profession upon the treatment of gonorrhœa would be fortified and established upon a rational foundation if its study was approached with the philosophic spirit which the author displays.

After reviewing the variety of the subjects used for injections, he says: "We hear a great deal about medicine being an inductive science, but in so far as the therapeutics of gonorrhœa are concerned, the state of matters which has just been laid before the reader is, in some particulars, much more on a level with fortune-telling, or the prophecies in Moore's Almanack, than with science in the proper sense of the word. The reader may think this going too far; perhaps it is, but the real authors of this confusion, the medical men who ushered in so many useless things into public notice on insufficient grounds, first of all, went a good deal too far in the opposite direction; and to recommend, in a disease like gonorrhœa, which will often disappear under a few cold-water injections, a remedy on the strength of its having been successful in some few cases, as has been repeatedly done, looks to me quite as haphazard as palmistry or weather wisdom."

We recommend this as a book which has the merit of striving to clear up old errors, which are numerous, and to substitute treatment in gonorrhœa and in spermatorrhœa as educed from the best practice of contemporaries, coupled with that of the mature experience of the author.

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SYPHILIS. By JONATHAN HUTCHINSON, F.R.S., LL.D. With eight Chromo-lithographs. Philadelphia: Lea Brothers & Co. Price $2.25.

This is the first volume of "Clinical Manuals for Practitioners and Students of Medicine" issued by the well-known house of Lea Brothers. It is a 12mo. vol. of 532 pages, well printed and artistically illustrated.

It is not necessary to say to those who have been close readers of his contributions, that Mr. Hutchinson is the most reliable student of syphilis of the day, but to those who have looked elsewhere for their teaching, they may enjoy in this little volume the crystallized statement of one who has gained the confidence of the medical world. The author's aim, as he declares in the preface, has been less at systematic completeness, than clinical exposition.

He has given us here illustrative cases the narratives of which tell their own story, and he has not failed "to allow their various weak points," as items of evidence, to be apparent. The author has adopted the microbian theory of the disease, and has, indeed, taught it for many years, and he has full confidence that some future investigator will discover the special microbe of syphilis.

The reader will find much in this little book that is new, or rather many of those things which have been regarded as so doubtful, or whose interpretation has been so difficult that they have never been allowed a place in books of this character.

Relapsing or recurrent chancre, which was believed in by Dr. Bumstead, but which he refrained from printing in his great work until he had accumulated more experience, is set forth here in several very significant cases.

It is not too much to say that this small book contains the best practical exposition of syphilis so far presented to the profession, and thus its advent will be hailed with satisfaction.

All of the chromo-lithographs are of value. Many of them are reductions of plates from the author's great work—"Illustrations of Clinical Surgery," which is a guarantee of excellence; and two figures of syphilitic keratitis from Frorieps are particularly fine.

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CORRESPONDENCE.

NEW YORK LETTER.

Medical Matters and Men in the Metropolis.

Of all the dogmatic axioms promulgated by our medical forefathers, that one relative to the advantages of a milk diet, in some one of its many and composite forms, for infants suffering from any disease associated with, or characterized by, impaired digestion, has been adhered to with most tenacity and with the fewest dissentient opinions. The horoscope of milk is overcast with a shadow at last, however, and its field seems destined, through the developments of the modern scientific investigations, to a radical restriction in therapeutical alimentation. Heretofore, in the treatment of cholera-infantum, the gastro-intestinal troubles of summer in children, infantile apepsia and other allied disorders of the alimentary tract, characterized by disordered nutrition from indigestion, of equal importance with the application of direct medicinal agents, was the regulation of the diet; and the usual course was to restrict it to milk. This was either to be boiled or raw, with or without peptonizing ingredients, or used in conjunction with some one of the standard preparations of food—Leibig's, Mellins', Horlick's, Nestlé's, etc. In a recent article in the *Medical News*, Dr. Holt, of the New York Infant Asylum, very vigorously condemns the use of peptonized milk in the treatment of the summer diseases of infancy and childhood, recommending instead beef-tea, mutton-broth, barley-water, etc., when it is impossible to get breast-milk, which of course takes precedence over all other forms of diet. More recently, Prof. Victor C. Vaughan, of the University of Michigan, has contributed a series of articles to the same journal, in which he demonstrates, by the application of scientific truths, as well as by clinical records of cases under observation, the inutility, and, indeed, the positive danger and damage from milk as an article of diet in such affections. This is due, he says, to a poisonous principle—tyrotoxicon—which has been isolated, chemically, in milk. Tyrotoxicon, given alone and in large doses to cats and other animals of the lower

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orders, produces violent retching and purging, with death, in from one to four hours. In smaller doses, continued daily, there results a progressively increasing exhaustion and emaciation, with death finally. To quote from Prof. Vaughan: "It establishes a cholera-infantum condition. The similarity to cholera-infantum does not cease with the symptoms induced and the death of the animal; but the post-mortem condition agrees exactly with that observed in children after death from cholera-infantum."

Tyrotoxicon is one of several poisonous products of fermentative and putrefactive changes in milk. The untoward results of a milk diet in these diseases has been observed before, and its use has been condemned and abandoned by several eminent practitioners within the past few years. This condemnation has, however, been largely empirical heretofore, and advanced with diffidence, because of insufficient knowledge of the *modus operandi* involved. The isolation of these poisonous ptomaines and the clinical demonstrations of their toxic effect, affords a rational and scientifically exact basis of opposition, and the result can be readily anticipated. Milk as a *sine qua non*, like indiscriminate venesection, must be relegated to the traditions of the past. Dr. Vaughan, in his paper, gives some valuable and practical instructions for the prevention of putrefactive and fermentative changes in milk, and the consequent development of these ptomaines, which, if faithfully and efficiently carried out, will do much to lessen the danger of toxic infection.

THE NEW ANTIPYRITICS.

A noticeable feature observed in therapeutical usage in general practice in New York, especially to one coming recently from the South, is the very sparing use of quinine. This is peculiarly and interestingly strange in connection with the general prevalence—in the opinions of the laity, at least—of malaria in New York city. As an antipyretic, quinine has been almost entirely superseded by the new agents—thallin, antipyrin and antifebrin—of which list antifebrin seems decidedly the most popular. This, it seems to me, from a personal experience with the use of these drugs, is a natural result, consequent upon careful observations of the effects of these agents. Antifebrin is much more reliable as an antipyretic, is much cheaper, can be given in smaller doses and does not produce any nausea or cardiac depression, as compared with antipyrin, its great

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rival. Experimental research has greatly widened the field of application of these drugs. Their usefulness is no longer limited to the reduction of abnormal temperature. Headache of the congestive variety, sciatica and other neuralgiæ, inflammatory rheumatism and allied disorders have all been proven to be amenable to the influence of one or the other of these drugs. As antipyretics, when an immediate and radical reduction of temperature is desired, as in the various hyperpyrexiæ, these agents are much more reliable than quinine, or even the wet pack. In the few cases in which any one of these agents fails the substitution of one of the others is all that is required to produce the desired effect. Apropos to the subject of malaria referred to above, and as an evidence of its general prevalence (?), it is stated that one of the most eminent and wealthy of the physicians of the city of Brooklyn (formerly a distinguished surgeon in the Southern Army) has accumulated a large and lucrative practice through the simple announcement on his professional card: "Practice limited to the treatment of malaria." At least four-fifths of the patients who consulted him professionally in his specialty were not the subjects of malarial infection at all—the term had been used as a convenient cloak for the ignorance of former attendants.

MISMANAGEMENT IN NEW YORK HOSPITALS.

New York officials seem to have become infected recently with a furious delirium of investigation and reform, and their operations seem limited to no special field. In the general over-hauling three or four of the city hospitals, insane asylums and reformatories are included, and in the case of the Ward's Island Insane Asylum a true bill has been found by the grand jury, arraigning two of the attendants upon the grave charge of murder.

Quite recently a suit for $30,000 damages for malpractice against the New York Hospital on Fifteenth street, one of the most commodious and best equipped hospitals in America, excited a slight ripple in medical circles, but the charge was not sustained, and, indeed, the result of the trial was a complete vindication of the surgical proficiency and operative skill of the surgeon in charge, Dr. O. F. Bull, a gentleman of many personal accomplishments as well as of distinguished professional ability. Dr. Bull, it will be remembered, was the first to do a successful laparotomy for wounds

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of intestine. The case, that of a man shot in a brawl, with six intestinal bullet perforations, was published in full in the *Medical News*. Dr. Bull, operates during the summer at the New York Hospital two and three times a week, and his clinics are always well attended by interested spectators of the local faculty and from all parts of the country.

The strictest antiseptic precautions are observed in all the hospitals, though the spray is rarely seen. Instruments, sutures, sponges, and, indeed, all the paraphernalia of the operating room, are subjected to the rigid scrutiny of powerful germicidal and antiseptic solutions of bichloride and carbolic acid. Iodoform is *par excellence* THE dressing, either in powders or in the form of prepared gauze, with which the wound is either covered or filled. Boracic acid is sometimes seen, and salycilic acid gauze is also met with occasionally, but there seems to be an unanimous preference for iodoform. Dressings are rarely removed before the fifth or sixth day, unless some special indication should arise, such as fever or suppuration.

A NORTH CAROLINIAN'S METHOD OF OPERATION FOR LACERATED PERINEUM.

One of the most radical necessities of the day in medicine, particularly in some special branches, is that of expurgation or elimination of superfluous and confusing matter in the literature of textbooks and journals. Every day some new method of treatment in disease, or some new operative procedure for surgical relief (?) is advocated by an ambitious originator, with the result of chaotic confusion, especially to the inexperienced. In general medicine there is necessarily some confusion and apparently superfluous literature, on account of the varying phases of disease, depending upon individual susceptibility and idiosyncrasy, but in surgery and in gynæcology there is less excuse, and even in general medicine much might be lost entirely from the literature of the day with no disadvantage to either doctor or patient.

In the field of surgical gynæcology is shown most markedly the accumulation of useless and confusing material, and in every department. For instance, the operation for lacerated perineum, very simple in the majority of cases, varies in its methods of procedure with almost every operation. Emmet, Sims, Thomas, Mundé, Goodell, Goelet, Hegar, Simon, Alloway, of Montreal, and others,

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have each originated some modification of the original operation with the claim of superiority in each instance. Of course, the extent of the laceration, and, to a certain degree, the condition of the patient and the complications of the case, influence the choice of a method in some instances, but the difficulty and confusion complained of, lies in the fact that each originator of a new method claims an advantageous application of his operation in *all* cases. Some systematic arrangement should be adopted by which the best features of each separate operation should be combined into one. In most instances the only point of difference lies in the method of introducing sutures, the dressing, or some peculiar step in paring the edges of the laceration.

Emmett's operation, because of its more or less complicated nature, is becoming less popular. That of Dr. Alloway, of Montreal, which consists of closing recent lacerations with *one* wire suture passed around the upper edge of the rent and twisted on the outside, has been quite extensively adopted in private and hospital practice lately here in New York. One of the best modifications of the old method is that originated by Dr. A. H. Goelet, of this city, a former North Carolinian, by the way, and a very accomplished and successful gynæcologist. The writer has had several opportunities of witnessing the advantages of Dr. Goelet's operation recently, in one of which, done by Dr. Carrol Lee, of the New York Woman's Hospital, the case possessed an additional and peculiar interest from the fact that cocaine was successfully used as the only anæsthetic. Dr. Goelet's method, an account of which was published in the *Medical News* (March 22, 1884), is about as follows: As to the denudations, avoid making more of a perineum than originally existed. Externally the denudation should not be carried further than the line of cicatrix of the old perineum. Denude the outer border first, commencing on the left side of vulva (right of operator) at the upper point of this line; denude a strip around to the point on the opposite side, taking care to follow the line of cicatrix, and not go too far out. As a guide to the limit of denudation internally (as suggested by Emmett), hook up with the tenaculum, the apex or crest of the rectocele at such a point that, when pulled forwards to the upper angles of the perineal cicatrix, it puts the posterior wall of the vagina gently on the stretch. Then remove a strip of mucous membrane from the upper point of the

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external boundary line on the left side of the vulva, to the point on the crest of the rectocele already determined upon, and from thence to the same point on the right of the vulva. The island of mucous membrane surrounded by these lines is then removed.

The next step is the introduction of the sutures. The vaginal rent is sutured with silk-worm gut or Lister's carbolized cat-gut, a small, short, *slightly* curved needle being used. The introduction of sutures is begun on the vaginal surface, at the termination of the vaginal rent, and each suture is tied as it is introduced. In this way the torn vaginal edges are stitched together up to the point where this line meets the perineal edge of the wound. Then, beginning at the bottom of the perineal rent, and using silver wire or silk-worm gut, making superficial sutures only, stitch these surfaces together, coaptating the edges carefully and closing the wound completely at the top, where both sets of sutures meet. The silk-worm gut is preferred for the internal sutures, as they may be left in for an indefinite time, and do not irritate or become absorbed. Eight or ten vaginal sutures are usually required, and six or eight perineal. The feel to the finger after all these sutures are tied, is that of the natural slope of the posterior vaginal wall. The perineal sutures may be removed in a few days, but the vaginal sutures are left in for two or three weeks, until the union is strong enough to permit of the vaginal dilatation to remove them. The advantages of Dr. Goelet's method over the old way of introducing sutures is evident! Better coaptation of the edges, which gives better and quicker reunion and prevents the urine or any discharge from uterus from coming in contact with the denuded surfaces. By its adoption the trouble and annoyance of using the catheter is obviated, and there is no puckering or thinning of the prospective perineum, with consequent interference with the circulation from compression.

W. B. PRITCHARD,
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ETHYL BROMIDE has been revived as a chloroform anæsthetic substitute. Specimens having a disagreeable odor or an acid reaction should be rejected. Dr. Marion-Sims' fatal cases of ethyl bromide anæsthesia occurred with ethyl bromide having these peculiarities.—*Medical Standard.*

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CURRENT LITERATURE.

BERGEON'S METHOD OF TREATING PHTHISIS.

Dr. Edward T. Bruen, of Philadelphia, reports 39 cases of phthisis treated by Bergeon's method (*Medical News*, July 2, 1887), and we lay before our readers his conclusions:

"To sum up the results of the examination of these cases, the record will be, benefited, 42 cases; of these, Lizzie F., M. and G. seemed to be in good health—though dullness and feeble breathing can be still detected over the portion of the lung which had been implicated—of the three, Maitland was the only case in which tubercle bacilli were recognized in the sputa, and the pulmonary disease is probably latent. Among the fifteen cases reported in which the results were negative, were three cases in which the treatment seemed to have a decidedly good effect, but their condition has fluctuated so much that I have, for fairness' sake, placed them in the negative list.

"The favorable effects secured by the treatment were lessened cough and expectoration, and disappearance of the physical signs of bronchial catarrh. Together with these results came lowered temperature and suspension of night-sweats. Temporary reduction of the pulse-rate fifteen to twenty beats, and temperature lowered from half a degree to one degree during the administration of the gas.

"In most of the cases I used the artificially prepared sulphur water, viz: 5 grains of sulphide and 5 grains chloride of sodium to a pint and a half of water, and this seems to have been the most satisfactory solution. After employing the treatment for several weeks, in some cases I have increased the proportions of the two salts gradually, adding 7½, 10, 15 and 20 grains by weekly additions; but in cases in which I have failed to secure good effects from the weaker solutions, I have derived no benefit from increasing the strength of the solution. Recently I have used the Sharon Spring sulphur water, and added the sulphide and chloride of sodium each day. By keeping the bottle tightly corked, I have been able to use the same bottle of water on two consecutive days.

There are a few details of consequence in administering the gas.

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Until tolerance is established, a small amount, one pint to a quart of gas, has been used daily, then the same amount twice daily, and gradually increased. From a gallon to a gallon and a half can be ultimately injected without discomfort. If there is pain after using the gas, it should be used but once daily, and only a small amount at a time; the strength of the solution of sulphuretted hydrogen should also be reduced; for instance, two and a half grains of sulphide and chloride of sodium may be used. It is desirable to inject slowly, consuming an hour in giving a gallon of gas, and the patient should rest quietly an additional half hour until the gas is entirely absorbed from the bowel. The longer the time taken to administer the gas the better, especially when any pain is caused by the treatment. The admission of atmospheric air into the bowel should be sedulously avoided.

"In cases of intestinal lesion or diarrhœa, my experience has been unfavorable to the use of the gas, except in very small quantities. Chronic peritonitis also forms a contraindication to its use. In about two cases out of ten I have noted a faint reaction indicating sulphuret of lead, which was obtained by holding filter paper, saturated with acetate of lead, to the mouth of the patient during the administration of the gas. The reaction was in no case decided, and I cannot account for its absence in so many instances.

"In none of the cases have any injurious effects been observed, but I have noted in some individuals subnormal temperature during the use of the gas, and also when the stronger solutions of sulphide of sodium were used the appetite and strength of the patients seemed impaired and their spirits depressed.

"Two suggestions may be given for the failure of the treatment to accomplish better results. The first of these applies only to hospital cases. It is impossible in a large general hospital to secure the detailed attention to diet necessary to suit the capricious appetite of the consumptive. In treating consumption it is absolutely necessary to increase the vitality of the tissues, so that they will be unfavorable culture media for the bacilli.

"The second suggestion is, that in cases with inherited tendencies to phthisis, or in those who acquire a phthisical tendency, there is great vulnerability of the mucous membranes, which ever fosters an outbreak of catarrhal processes in the bronchial structures. In this way the good effects of the treatment are constantly opposed.

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I incline to think that suitable climatic environment is an all-important adjunct to the proper settlement of the value of Bergeon's treatment. But it is certainly an important addition to our therapeutic equipment to have an agent capable of influencing very markedly bronchial catarrh in so many cases, especially the stay-at-homes.

"In a word, Bergeon's method, so far as I have used it, is chiefly valuable in those cases of pulmonary disease attended with bronchial catarrh. But I fear the trouble and detail necessary to its successful use will prevent many from employing the method, and I can easily see that the limitation of the power of Bergeon's method will cause it often to be set aside for other plans of treatment.

"In conclusion, I believe our efforts in the therapeusis of phthisis should always be directed rather to those measures which tend to establish the general health, rather than to hunt up specific forms of treatment. Suitable climatic conditions, and judicious alimentation, and appropriate personal hygiene remain, in my opinion, the first principles in the therapeutic management of phthisis, and Bergeon's treatment should be considered an adjunct to these."—*Med. News.*

IS TUBERCULOSIS OF THE LUNGS EVER CONTAGIOUS?

By F. I. Knight, M.D., Boston.

In July, 1885, a young lady of 19 came to my office with a history of cough of nine months duration. I found signs of phthisis in one lung. Her father was a very strong man; her mother had died of some nervous trouble after child-birth. There had been ten children, five of whom died in infancy, none of them with any brain or lung disease. There had been also six half-brothers and sisters, one of whom had died in infancy. Of the uncles and aunts, on both sides, only one uncle had died of phthisis. The patient gradually declined, and died April 15, 1887. She was accompanied in her visits to my office by an older sister, twenty-three years of age, who had given up everything to attend to her. This sister, while not robust-looking, appeared well, and said that she had always been so. She occupied the same room and bed with her

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sister. This I protested against, and advised her to go out regularly every day for walks in the fresh air.

The last record made of their visits to me was in the latter part of October, when the phthisical patient became too sick to come to me, and went under the care of her family physician in a neighboring city; she died, as I said, on the 15th of April. On the 19th of April the sister came into my office with the following history: She had continued to attend closely upon the invalid all winter, and had disregarded all my advice. She had even slept with her sister up to within five weeks of her death. She was with her night and day. During the latter part of her sister's life her breath was so offensive that she could eat almost nothing, and only kept herself up by the free use of stimulants. She stated that she had a little drp, hacking cough for a month. She breathed rapidly, but said there was no dyspnœa. On examination her pulse was found to be 140. Temperature 104°. On examination of the chest, subcrepitant râles were heard in both upper lobes, front and back, and the diagnosis of acute pulmonary tuberculosis was made. Examinations April 26th and May 3d confirmed the diagnosis. On the 21st of May she came to my office so weak that she had to be assisted from the carriage to the house. She reported hæmoptysis of several ounces two weeks before. She was so weak that I did not examine her chest. Pulse 160; temperature 103.4°. I did not see her again, and she died June 17, 1886, about two months after I first examined her, and three months after the beginning of the dry cough.

Who can fail to believe that the disease and death of this patient was caused by attendance upon her sister? Hardly any one will deny this. Admitting it, would she have succumbed to acute *pulmonary tuberculosis*, if she had attended upon a sister ill with some other disease? As she had no such hereditary tendency I do not think so. How often do we see patients worn out with much longer attendance upon the sick, and yet not become tuberculous? And how often do we see strong women without the slightest hereditary tendency succumb to attendance upon tuberculous patients.

It is useless to allege in this connection that ordinary attendance upon the sick in consumptive hospitals does not affect the attendants. I admit this fact, but the attendance is not so prolonged, nor so close as in families. Let any one who has doubt about the

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clinical evidence bearing upon this point read the little brochure of Webb. The fact is that tuberculosis is so common with us that we have almost ceased looking for the immediate cause in any case, especially if relationship gives us a chance to attach the blame to heredity. I believe, however, that there are hundreds who have by inheritance that peculiarity of pulmonary soil which favors the development of the tubercular disease, who would not show it unless they were brought into contact with those already affected. Whether all cases require such a transmission of germ we do not know.

In what manner is it possible that the disease is communicated? It has been claimed that bacilli have been found in the breath, but it is, perhaps, more probable that the communication in most cases is by dried sputum, which becomes diffused in the atmosphere. We have abundant proof that tuberculosis can be readily communicated to animals little liable to it, for example, dogs, by causing them to inhale for an hour or two a day an atomized solution of the sputa of tuberculous patients. (See the experiments of Tappeiner and others in substantiation of this statement.)

So, then, I say that the appearance of tuberculosis of the lungs in countries where it was previously unknown, with the ingress of people from countries where it was common, the marked increase in the disease in the neighborhood of health-stations resorted to by the tuberculous, the personal history of the development of cases in our midst, and experimental work with the sputa, all point strongly to the probable communication of the disease under favorable conditions, and make it not only incumbent upon us, in case of pulmonary tuberculosis in a family, to establish precautions against communication of the disease, but makes us criminally negligent in failing to do so.

What precautions shall we take? These pertain (1) to the patient; (2) to the quarters he occupies; and (3) to the exposed attendant.

The patient should be made careful in the disposal of his sputa, either to deposit them in a cup in which some germicide has been placed, or if the patient is feeble and obliged to use cloths, let them be destroyed before any drying occurs. It would hardly seem to be necessary to warn respectable patients not to spit about them carelessly, yet I have seen with respectable people the most utter indifference in this regard. I have seen a patient with hæmoptysis

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lying in bed on his back letting fly his expectoration in every direction, so that the bedding, floor and walls of the room were well covered with sputa. I have seen a beautiful prima donna of the opera spit right and left over a handsome hotel carpet. Neither of these patients was American. I have, however, seen an American, a distinguished citizen, afterwards United States Minister to one of the European Courts, sit in the office of a distinguished consultant and squirt a sickly stream of tobacco-juice between his teeth over a fine straw carpeting just laid.

For disinfection of the spit-cups, Dr. Ernst informs me that a five per cent. solution of carbolic acid is the best. Corrosive sublimate does not answer, as it coagulates mucin and does not reach the bacilli at all.

In regard to the room: we should secure change of air by every known device, and as long as possible by a daily removal of the patient from his room for the purpose of thorough ventilation. Clothing and bed-linen should be frequently changed. The absolute value of antiseptic sprays for the room in such cases we know not, and the use of those which are offensive in themselves should not be recommended. But such as are pleasant to the patient and attendant would be of service at least in counteracting the disagreeable odor which attends the last stages of pulmonary disease.

In regard to the exposed persons, let it be said that from the moment tubercular disease is discovered another person should not occupy the same bed, not only for the sake of the exposed person, but also that of the patient, who will rest much more comfortably alone. Sleeping in the same room should also be forbidden, as we seem to be more susceptible to all infectious diseases during sleep. The attendant should have daily exercise in the open air, and if a relative, an occasional complete change, if possible. In case of any failure in health, this should be insisted upon, and, although the physician cannot always prevent self-sacrifice on the part of friends, he can often modify it. At any rate, he should not feel that relief of his patient was his only duty, but that his duty extended to the surroundings of his patient, and required that these should be arranged with due regard to the protection of relatives and friends.

If there is any decided hereditary tendency to the disease, relatives should, if possible, be prevented from any attendance upon the sick, and put at once upon proper hygiene.—*Boston Medical and Surgical Journal.*

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A CYCLE OF TUBERCULOSIS INFECTION.

Besides cases of infection of tuberculosis in the human subject, as described in Dr. Knight's paper in another column of this *Journal*, well authenticated instances have not been wanting of transferrence of tuberculosis from man to animals and vice versa. The domestic fowl has been known to prove an easy prey to this species of infection, as when the sputum of a consumptive patient was cast into a barn-yard, infecting a whole flock of hens. The following case, reported by Dr. Lamallarée, of the Congress of the French Scientific Societies, in Paris, and recorded by the French correspondent to the *Therapeutic Gazette*, shows the chain of contagion of tuberculosis (1) from man to man (2), from man to animal (3), from animal to man.

In 1872 a young man liberated from military service after he had been a prisoner of war, came to a small village, where he settled as a wood-cutter. Although suffering from bronchitis, he married a young girl of the locality, but soon after he was taken with hæmoptysis, and died within a year after his marriage, leaving a child rather delicate. The widow, who had been a strong, healthy girl, gradually became consumptive, so that in 1885 she had cavities in her lungs, profuse expectorations, and now she presents all the symptoms of an approaching end. Dr. Lamallerée was recently called upon to see a neighbor of the widow just mentioned, a young woman whose antecedents could not lead him to suspect tuberculosis. The patient, nevertheless, was found to suffer from incipient phthisis. After long questioning, it was ascertained that within some four months she had eaten eleven chickens bought from her neighbor, and as her strength was failing she had roasted them very slightly, hoping to thus get more nourishment. From her house the doctor stepped into the widow's whose case he knew well, to ascertain how the hens were fed, how they had died, and whether they were in the habit of absorbing sputa. On this point he received prompt satisfaction. As he was walking into the house he heard the widow have a fit of coughing, and immediately a legion of chickens ran in, as they are wont to when hearing the voice of one who feeds them, and began to fight around the bed for the consumptive's sputa. One of the hens having died the same morning, the doctor found in the animal seventeen soft tubercles; the liver was honeycombed with them, and the liquids contained many bacilli.—*Boston Medical and Surgical Journal.*

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HEALTH-GIVING FORESTS.

Dr. A. L. Loomis writes in high degree of praise of the purifying effects of evergreen forests upon the surrounding atmosphere. He does not attempt to explain what the health-giving emanation from the forests may be, but writes from facts under his own observation.

The summary of these observations we borrow from an editorial in the *Maryland Medical Journal:*

"The belief in the curative effects of the atmosphere of pine forests, Dr. Loomis well observes, is an old one, and has long been held, not only by physicians, but the non-professional public. Whilst various attempts have been made to explain how the beneficial effects of these forests are secured, the probable explanation is found in the emanations from such forests which render the air not only aseptic, but antiseptic. What this antiseptic agent is the chemical laboratory has not been able to supply, but it is probable that it is the product of the atmospheric oxidization of turpentine. In support of this view Dr. Loomis cites the fact that the turpentines alone have been regarded as of special service in the treatment of all forms of catarrh, especially catarrh of the respiratory surfaces. It is quite well-known that the atomized solutions and vapors of turpentine are of decided value in diseases of the respiratory organs, and have been constantly used in this class of cases. Turpentine is not only a powerful deodorizer and antiseptic, but its local and constitutional effects are those of a powerful germicide as well as stimulant. The presence of this turpentine vapor in the pine forest cannot be questioned. Whatever benefit is derived from the inhalation of this pine forest atmosphere, must, in the absence of any other known cause, be referred to the presence of the turpentine vapor. How this atmosphere can arrest tubercular processes is not difficult to understand in the light of our present knowledge.

"It has been well shown that the putrefactive processes within the pulmonary tissue are due to, or accompanied by, the presence of bacteria, which by their presence induce a destruction of tissue and a septic poisoning which sooner or later destroy life. Any agent which will destroy these bacteria render them inert or arrest the putrefactive changes which are going on will exercise a beneficial influence upon the disease. Antiseptic inhalations act in this way;

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they virtually wash out the septic lung cavities, arrest septic absorption and for the time being stay the progress of the disease. It is in keeping with this theory of treatment that the Bergeon method has latterly somewhat revolutionized the treatment of tubercular phthisis. Dr. Loomis is convinced that we have in the atmosphere of the pine forest a most valuable antiseptic and corrective agent for cleaning lung cavities, correcting putrefactive changes and arresting the multiplication of bacteria. The views of so high an authority are entitled to eminent consideration. It may be pertinent to inquire whether we may not be able to surround our tubercular patients with a pine forest atmosphere within their own homes? In a measure we believe we can. The various instruments at our command make it possible to atomize antiseptic agents to such an extent as to render them possible of complete inhalation. In this way turpentine, eucalyptol oil and other such antiseptics may be employed to decided advantage. Indeed, such substances are now freely employed by the specialist, and we would suggest their universal adoption by the general practitioner and by all who undertake phthisis."

In addition to this, Mr. Rimmell, of London, some years ago, in the *Medical Times and Gazette*, recorded some experience in the purification of the atmosphere by certain odorous oils—lavender, lemon, orange, bergamot, etc., etc.

It has been a long recognized fact that in the days gone by, when Wilmington was a very unhealthful place, that the erection of turpentine distilleries in the town was the beginning of a new and better condition of things as to health. The balsamic odor of distilling turpentine wafted through the town from the river front by the prevailing W. and S. W. breezes, is always grateful to the lungs, and without doubt purifying to the atmosphere. It is to be regretted that the distillation of turpentine is year by year leaving us, but it is certain we have, and may have more, of a more certain agent, if we desire, namely, good underground drainage.

Let all the towns in the State adopt the practical lesson, and leave the pine trees standing, and not make the great blunder of clearing off every available spot that might be used as a park, as Wilmington and Raleigh, and other towns have done. It is not too late now for all these towns to make great exertions to raise native forest trees, and none of them would be half so desirable as the long-leaf pine.

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TREATMENT OF SPECIAL CONDITIONS IN SYPHILIS.

[From Syphilis. By Jonathan Hutchinson.]

Ulcers in the Throat and Sores in the Mouth in the Secondary Stage.—Give mercury, use black wash as a gargle, or dust the sores with iodoform. If they prove intractable, touch them lightly with the acid nitrate of mercury or some other caustic. If very painful, it is necessary to consider whether they may not be aggravated by mercury, especially if the latter have been long used. If this appears probable mercury must be disused and the iodide of potassium given. Smoking must always be prohibited.

Ulcers in the Throat in the Intermediate or Tertiary Stages.—These are often phagedænic. Iodide of potassium must be freely given and iodoform applied by insufflation or by means of a camel-hair pencil. If, in exceptional cases, the condition persists, the sore must be freely touched with the acid nitrate of mercury. It is a rapidly destructive condition, and the treatment must be efficient. There is usually no objection to small doses of mercury, but the iodide will generally suffice.

Iritis, Retinitis, Neuritis, etc., in Secondary Stage.—Push mercury rapidly to slight ptyalism, and in iritis use atropine very freely. Large doses of iodide of potassium will usually suffice for these affections, but mercury is better.

Ulcerating Secondary Eruptions of the Rupial Type.—These usually occur after mercury has been given in too large doses, has disagreed and been wholly laid aside for sometime. Mercury, in combination with the iodide of potassium, is indicated, or mercury may be given alone. The iodide alone is rarely sufficient. Ptyalism is to be carefully avoided, and, if success is soon obtained by other methods, inunction or fumigation should be resorted to. Sea air is often very valuable. When once the cure sets in it usually progresses well and is in the end complete. Iodoform ointment should be used to all sores.

Phagedæna in all Forms and Stages.—Iodoform is by far the most convenient, least painful and most efficient agent. It will probably supersede all the older methods. Should it not succeed, constant immersion, the acid nitrate of mercury, or the actual cautery, may be employed. Mercury and the iodide should be

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given with opium. If all fail, the patient must be at once sent to the seaside, and the same remedies used there.

Disease of Arteries [*indicated by cerebral attacks.*]—Give a long course of small doses of mercury, or, less efficient, of the iodide.

Periostitis and all Forms of Bone Affection.—Here the iodide of potassium is most efficient and relieves pain more quickly than anything else. If the case resists, however, mercury should be used, and it will often succeed in removing hard nodes which the iodide had failed to influence.

Periostitis and Bone Affections in the Inherited Disease.—The same remedies must be used, but much less rapid results must be expected. Very often nodes in this connection resist treatment for sometime, and then suddenly disappear.

Lupoid Affections of Skin in Tertiary Stage.—Rub in iodoform ointment, and apply it on lint, or, if the point be one to which this cannot be conveniently used, or the smell be an objection, apply the acid nitrate of mercury freely. Iodide of potassium may be given, but if not successful, it should at once be substituted by mercury, which often succeeds when the iodide fails.

Phagedænic Lupus of Nose and Face from Inherited Syphilis.—The destruction may be very rapid, and the treatment must be prompt. Cauterize freely with acid nitrate, and then dress with iodoform ointment. Give iodide and bark.

Interstitial Keratitis of Inherited Syphilis.—Give a long course of small doses of mercury with bark. Send patient to sea or country during the treatment. Use atropine or belladonna fomentations.

Locomotor Ataxy or other Chronic or Aggressive Nerve Disease with Syphilitic Antecedents.—Give mercury in small doses to slight ptyalism. If benefit results, repeat the treatment after a month's interval, or give smaller doses without ptyalism over a period of six months or a year. Many such cases relapse, and need a repetition of treatment. Inunction is very useful, but not more so than small doses by the stomach. Iodide of potassium is also very efficient, but probably less so than mercury.

In cases which resist mercury, and in which it is wished to induce ptyalism rapidly, use the hypodermic method, employing a third of a grain every day for three or four days; or use mercury by the mouth or inunction, and insist that the patient shall keep his bed.

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In cases of pregnancy in which it is desired to protect the fœtus, administer small doses of mercury [one grain of grey powder, or one drachm of the solution of bichloride, three times a day], through the whole period. There is possibly a minor objection to this, that it may damage the child's teeth [first set], but upon this point careful observation is necessary.

In cases in which marriage is in prospect, let the patient take small doses of mercury continuously during the whole period before marriage. Abstain from the iodide of potassium. However efficient and long-continued the treatment, no one should marry until two full years have passed from the beginning of the disease.

Prof. Ewald has enriched our diagnostic resources by a new procedure for investigating the motor power of the stomach. [Berlin Medical Association, June 15th.] We know pretty well the chemical changes taking place during digestion, but our experiments on the time required by the stomach for transmitting food into the duodenum have hitherto been limited to patients suffering from gastric fistula. Trials made in the normal state of health have always failed. A means has now been found in salol excellently adapted to solve this question. Nencki, who discovered salol, has stated that it remains undissolved in the stomach, but is decomposed into phenol and salicylic acid by the pancreatic juice. The first part of this dictum is correct, the latter incorrect, for salol is decomposed by any neutral mucous membrane, whilst the juice of the pancreas seems rather to delay the decomposition. Salol, on reaching the bowels, immediately dissolves, and shows almost instantly in the urine as salicyluric acid. This easily yields a red precipitate with chloride of iron. This reaction will show almost exactly the moment of the entrance of the food into the bowel. The urine of seven persons in sound health showed the reaction to take place mostly within three-quarters of an hour, rarely within half an hour. It took two or three hours in seven cases of "ektasia ventriculi," this disease being distinguished by loss of motor power in this organ. On applying the electric current to the abdomen the reaction took place in normal cases a quarter of an hour sooner; in cases of enlargement of the stomach, half an hour sooner. This experiment says much in favor of this method of treatment, which is despised by so many physicians. Science owes to Prof. Ewald a discovery equally important in theory and in practice.—*British Medical Journal.*

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NOTES.

DELEGATES TO THE INTERNATIONAL CONGRESS FOR THE NORTH CAROLINA MEDICAL SOCIETY.—Dr. T. D. Haigh, President of the North Carolina Medical Society, has appointed the following gentlemen as delegates from the Society to the International Medical Congress that will convene in Washington the 5th of September:

Dr. E. F. Ashe, Wadesborough.
" H. T. Babnson, Salem.
" W. P. Beall, Greensborough.
" W. J. H. Bellamy, Wilmington.
" Julian M. Baker, Tarborough.
" Paul P. Barringer, Davidson College.
" S. D. Booth, Oxford.
" T. E. Balsley, Reidsville.
" A. G. Carr, Durham.
" W. T. Cheatham, Henderson.
" Charles Duffy, Jr., New Bern.
" J. M. Covington, Rockingham.
" W. T. Ennett, Burgaw.
" H. B. Ferguson, Halifax.
" F. T. Fuller, Raleigh.
" Joseph Graham, Charlotte.
" R. F. Gray, Winston.
" Eugene Grissom, Raleigh.
" J. A. Hodges, Fayetteville.
" P. E. Hines, Raleigh.
" E. B. Haywood, Raleigh.
" E. H. Hornaday, Willow Green.
" James Hughes, New Bern.
" J. W. Jones, Tarborough.
" S. R. Jones, Charlotte.
" A. W. Knox, Raleigh.
" R. H. Lewis, Raleigh.
" W. H. Lilly, Concord.
" John McDonald, Washington.
" James McKee, Raleigh.
" J. W. McNeill, Fayetteville.
" J. F. Miller, Goldsborough.

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Dr. W. P. Mallett, Chapel Hill.
" P. L. Murphy, Morganton.
" C. J. O'Hagan, Greenville.
" R. L. Payne, Lexington.
" N. J. Pittman, Tarborough.
" C. M. Poole, Salisbury.
" S. S. Satchwell, Rocky Point.
" J. F. Shaffner, Salem.
" E. M. Summerell, Salisbury.
" George G. Thomas, Wilmington.
" R. H. Winborne, Edenton.

THE DANGERS OF SANTONIN.—A correspondent in the *Therapeutic Gazette* (Dr. Blinn) calls attention to the dangers of Santonin. We have had an increasing mistrust of santonin for many years, and now permit its use only when some mother insists that her child has worms, and did well formerly with a dose. After a few successive cases in which serious symptoms followed the administration of santonin, we are willing to return, with a considerable degree of relief, to the friend of our former days, so liberally dispensed by the negro " mammies," viz : Jerusalem oak (*chenopodium*) seed in molasses. Chenopodium oil is largely used in " dead-shots " and " worm-killers," and is not without its objections, but the seed mixed in some vehicle like honey or molasses, is unobjectionable.

H. W. RAVENEL, LL.D.—Dr. H. W. Ravenel died at his home, in Aiken, S. C., on the 16th July, in the 73d year of his age. He was a botanist, eminent in the department of mycology, and, together with Dr. M. A. Curtis, was a pioneer in this difficult branch of learning in the South. His large herbaria will probably be for sale, and no better opportunity will be found of securing complete and authentic sets of flowering and cryptogamic plants than this for a long time to come. Dr. Ravenel received his degree from the University of North Carolina in 1886. He was a most thorough student, caring little for worldly honors, and pursued his work *con amore*. The war left him penniless, so that he was not able even to secure an outfit whereby to pursue his studies, and the small remuneration which came to him later was ridiculously inadequate to the original research to which he devoted himself so assiduously. He has left the South the legacy of his great achievements, but unfortunately for the South there appears no successor in his department.

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Arsenic Arrests Iodide Eruptions.—Mr. Hutchinson calls attention to the fact that arsenic is tolerably efficient in preventing the eruption from iodides and bromides.—*Syphilis, by Jonathan Hutchinson, p.* 305.

Daily Editions of the Proceedings of the International Congress.—The *Medical Register*, of Philadelphia, has for some months announced that it would issue a daily number during the session of the Congress.

The *New York Medical Record* announces that it will have a corps of medically educated stenographers at the sessions of the International Medical Congress, and that a condensed report of the proceedings will be telegraphed to the editors each day for publication in their current issues.

Apomorphine in Croup.—Dr. Alexander F. Samuels, in *Therapeutic Gazette*, writes favorably of the treatment of croup with apomorphine. He dissolved 1-6 gr. in six teaspoons of water, and administered a teaspoonful every five or ten minutes until vomiting ensued. If not very novel, it is w rth remembering.

Death from Ether.—A patient was etherized by Dr. White in Philadelphia this month, preparatory to an operation for hemorrhoids, to be done by Dr. Hayes Agnew. He had once before been under the influence of ether for an operation and no reason existed for fear of disaster until, as the operation began, he was suddenly seen to cease breathing, though his heart continued to beat. Every effort was made to revive him without avail. The results of the *post mortem* have not been reported.

Poisoning by Locust Bark.—Dr. Emery, of Brooklyn, reports the poisoning of thirty-two boys, at an orphan asylum, from chewing the inner bark of the locust tree, which had been stripped from fence posts. This, we believe, is the first instance on record of poisoning from this cause. Locust bark should be investigated chemically.—*Medical and Surgical Reporter.*

[The locust referred to above is Robinia pseud-acacia, bearing conspicuous white flowers, and not the honey-pod locust—Gleditschia.—Eds.]

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THE LIBRARY OF THE SURGEON GENERAL'S OFFICE is now (*Medical News*, August 6th) being removed to the new fire-proof building erected for its special use, and the new arrangements are expected to be completed in September.

MALARIAL PROPHYLAXIS.—The *New York Medical Record* calls attention again to the use of lemons. The fruit is sliced whole and boiled with three cupfuls of water, which is boiled down to a pint. It is then strained with pressure through linen and set aside over night. It is taken before breakfast. Some of our readers may have had some experience in the use of lemons in this way.

THE UNIVERSITY SHAKSPERE CLUB.—We acknowledge the compliment of a copy of the first publication of the above-named Society, and note with pleasure this evidence of literary culture which has been excited by the good teaching by the professors of literature. A handsome engraving (the Felton portrait), with autograph of Shakspere, adorns the pamphlet.

FUNDS FOR THE INTERNATIONAL MEDICAL CONGRESS.—We learn by the advertisement in the *Journal of the American Medical Association*, and from other sources, that there is a great lack of funds to carry on the work of the Congress. This condition of things has been long anticipated by those in a position to know, and it leaves the officers in a very perplexing position. We would be pleased to know that there are those among the doctors in our State who are able and willing to help. If so, they can address their communications to Dr. C. H. A. Kleinschmidt, Secretary, Washington, D. C.

GERMAN AND AMERICAN STUDENTS.—Dr. N. Senn, in one of his letters to the *Journal of the American Medical Association*—letters that will be read by every one with pleasure and profit—makes an observation which is gratifying, as the popular opinion prevails to the contrary. He says, after commenting upon the German method of examining a candidate for the degree: "There is no question in my mind that the average American student learns more in one month than the average German student in three. He learns more, not because he has better teachers, or better facilities, but he makes better use of his time."

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THE COLLEGE OF PHYSICIANS AND SURGEONS OF NEW YORK (*Medical News*) announces that for the session of 1888–'89, *et seq.*, a preliminary examination will be required in English, Latin, arithmetic, algebra and plane geometry.

BLACK HAIR DYE.—In Dr. McCall Anderson's work on "Diseases of the Skin" (*Therapeutic Gazette*) a new hair dye is described as accidentally discovered. It consists in the use of a solution of bichloride of mercury, gr. ij to ℥ j of water, for a few days, and following with one of sodium hyposulphite, 3 j to ℥ j, a few applications making the hair nearly or quite black, without staining the skin or clothing.

ZIGADENUS NUTTALLII.—Messrs. J. U. & C. G. Lloyd give a description of the above plant (*American Druggist*), called popularly *Death Camoss*. It is nearly allied to Colchicum and Veratrum botanically. It is said to be a narcotic poison, causing when taken extreme thirst, constant vomiting, dilatation of the pupil and coma, and (sequel) inflammation of the stomach." Two species of zigadenus grow in this State, one in the mountains, the other in the coast counties, viz: *Zigadenus glaberrimus* and *Z. leimanthoides*. These latter have not been investigated, but have no popular bad repute.

DR. WILLIAM BEAUMONT, THE FOUNDER OF ANIMAL CHEMISTRY.—The American profession will thank Prof. Steele for the service he has done them in reviewing the life of Dr. William Beaumont, the founder of our knowledge of the physiology of digestion. In the August *St. Louis Courier of Medicine* we have the story told anew, and with affectionate reverence, by one whose student life reached to the days of Beaumont's work, and whose pupil he was.

Dr. Beaumont's experiments upon Alexis St. Martin were begun in 1822, when he was only 27 years of age, a surgeon in the army. St. Martin, his patient, a Canadian, had been wounded by the accidental discharge of a musket, which partially shot away the left side of his body. A long year of convalescence followed the wound, during which time he was assiduously treated by Dr. Beaumont, and the patient left with an incurable fistula which led to the stomach. Failing to secure the healing of the fistula, two years later the young surgeon appreciated his advantage and instituted a

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series of experiments on the properties and powers of the gastric juice, on the motions of the stomach and appearance of its villous coat, on the comparative digestibility of different articles of food, and on the effect of mastication and insalivation.

St. Martin was a particularly unruly patient, and in spite of the money spent on him by his devoted physician, he would run away and interrupt the progress of experiments. These experiments were carried on through several years at Fort Mackinac, Fort Crawford, Prairie du Chien and Washington. Dr. Beaumont had the assistance of noted chemists and physiologists, and among them Profs. Silliman and Dunglison. Believing that he could find abler physiological chemists in Europe, he sought the assistance of the government, which was not given. Finally, he determined to undertake the visit to Europe with St. Martin, at his own expense. He obtained leave of absence for a year, which was cut down to six months afterwards, and believing that the time was not adequate, he abandoned the undertaking. The European profession took great interest in this experiment, recognizing in it the inauguration of studies which have since been developed into a real science of physiology. The first publication of Dr. Beaumont's experiments was in 1833, but a second edition was not called for until fourteen years later. It was translated into French and German in 1834, and published in Scotland in 1838, by Andrew Combe, the eminent physiologist.

Dr. Beaumont died in St. Louis in 1853, at which place he was engaged in the private practice. In 1849 he was at his post battling with the cholera, although then over three score years old.

It is the honor of young America to have inaugurated anæsthesia in surgery, to have inaugurated ovariotomy, and to have inaugurated the science of animal chemistry, and it is proper that Americans should now and again rehearse this history of their small beginnings, but it seldom happens that a pioneer in a great work has a more enthusiastic and high spirited biographer than Dr. Steele.

A NEW TEST FOR MORPHINE.—A novel and very beautiful test for the presence of small quantities of morphine (1-200 gr.) has recently been suggested. To the solution to be tested add a few drops of strong sulphuric acid and about the same quantity of a solution of sulphate of sodium. Heat the mixture in a porcelain

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capsule, and directly it begins to give off sulphuric vapor cool it suddenly, when it assumes (if morphine be present) an intense violet coloration. If the mixture be further heated, it turns brown, and when cooled, the addition of a few drops of water determines a vivid red coloration, which turns a pale green if more water be added. If at this stage an equal bulk of chloroform be poured into the mixture and well shaken, the chloroform becomes of a bright blue color.—*British Medical Journal.*

WHAT SALT OF QUINIA SHALL BE USED HYPODERMATICALLY?—The *Therapeutic Gazette*, of May 16, 1887, answers this question as follows: "As regards *quinine*, the question appears to be settled, for the time being at least, in favor of the *hydrochlorate*. At the last meeting of the Paris Society of Pharmacy (April 6th) the merits of the rival claimants, the sulphovinate and the lactate, were discussed and summarily disposed of. The *sulphovinate* has the disadvantage of decomposing when kept, and thereby becoming apt to cause abscess when injected; the *lactate* of being but little soluble when crystallized, so that the solutions have to be made extemporaneously from freshly precipitated quinine and lactic acid, with some precautions to insure the percentage of active principle. On the contrary, the hydrochlorate is a stable compound, sufficiently soluble, and easily procured from dealers in well-defined crystals, much less liable to adulteration than the ordinary medicinal sulphate. The reason of this comparative purity may be that the sulphate is an old acquaintance of the dealers, in fact, too familiar to them, while the hydrochlorate is a new-comer. But it is unnecessary to borrow troub e; suffice it to say for the present that this salt appears to be the most eligible quinine compound for hypodermatic uses, and that it is, in the actual state of science, found in commerce unadulterated with other cinchona alkaloids.—*Medical Progress.*

THE CONTAGIOUS DIARRHŒA OF NURSING CHILDREN, AND ITS BACILLUS.—Hayem recently reported to the Academy of Medicine some investigations which he had made to determine the nature of the contagious element in the diarrhœa of nursing children, and its most efficient treatment. He was led by the failure of general medication to prevent relapses, to order all bedding and linen of the little patients to be disinfected with bichloride of mercury, when he observed that the disease, which had become epidemic, was

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checked. An examination of the dejecta showed that the greenish color present was dependent upon masses of bacilli and substances formed by them. Cultures were readily made of these microbes, and their behavior toward various antiseptics observed. The reaction of the matter in which they were voided he found was neutral or alkaline; and accordingly the effect of acids was tried. It was found that lactic acid, even in small quantities, destroyed the cultures made upon peptonized gelatine. In doses of a teaspoonful of a solution of two parts to one hundred of water, given a quarter of an hour after nursing, and repeated from five to eight times daily, lactic acid gave excellent therapeutic results, surpassing naphthalin, iodoform, sulphide of mercury and calomel. Hayem concludes that altered gastric secretions, in the dyspepsias of nurslings, permit the microbes to enter the intestine with their germinating power undestroyed; and finding there an alkaline medium of growth, they increase rapidly. He considers that the dejecta, as received upon linen and bedding, contain the contagious elements. He has instituted experiments upon young animals with the cultures obtained from his patients, the results of which will be of interest.—*Medical News.*

VIGIER recommends in the *Gazette Hebdomadaire*, June 17, 1887, the following formula:

℞.—Acid. lactici..... ..... 2 parts.
Syrup. simpl..... 98 "
Essentiæ citronis..... q. s.—M.
Filter.
Sig.—2 or 3 teaspoonfuls daily.

Koch has already shown, in his studies of the coma-bacillus of cholera, that they are killed by the lactic acid of the normal gastric secretion, and that it is when the activity of this physiological safeguard is interfered with or destroyed that the bacilli pass uninjured into the intestines, to multiply and produce the characteristic disturbances there. The effects of lactic acid upon these microbes, and the recent investigations of Kolischer, of Vienna, upon the tubercle bacilli as affected by phosphoric acid, suggest the acids as a class of germicides whose study promises information of practical value.—*Medical News.*

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M. Gayon and Dupetit, at a recent sitting of the French Academy, presented a method for preventing the secondary fermentation in the production of alcohol, to which the formation of the higher alcohols are due. It was the addition of bismuth salts to the fermenting fluid, they claimed, that thereby only the pure ethylic alcohol was generated.—*Medical and Surgical Reporter.*

Ricinus Communis.—Mr. Thomas Dixson draws the following conclusion from a paper with the above title published in the *Australasian Medical Gazette* for March and April, 1887:

1. That the castor oil contains only a gentle aperient, while the castor seeds contain a violent, irritant one.

2. That the seeds should never be used as is done in some countries by the "herbalist," as aperients, deaths in great agony having been so caused.

3. That in castor oil the aperient substance seems to be an oil or resin, and is certainly not the same body which we find in the seeds, after the oil has been extracted, as stated wrongly in text-books.

4. Nauseous material can get into the oil through it being heated, or through it being expressed from the unshelled seeds; for the unshelled seeds yield, to alcohol or ether, a brown substance of ill smell and acid taste, but not aperient.

5. That if the seeds were shelled before the oil were pressed out cold, an almost tasteless oil is got, while the cake left behind would, if cooked, form an albuminous, pleasant article of food, especially of use in India, where thousands of tons of the cake are made yearly in a crude way. In famine, this would be a valuable adjunct to rice, seeing that meat is not eaten by Hindoos.

6. That the active principle is probably the very glycoside found in the seed, which, through a slight change in chemical composition (hydration perhaps), loses its activity (*cf.* convolvulin, which readily changes when heated in presence of alkalies to the inert convolvulinic acid).

The leaves of the castor plant have been long used locally for encouraging lactation. Mr. Dixson was unable to obtain any traces of an active principle, either aperient or otherwise, from the fresh leaves; possibly the benefit may be due to their being large, soft and pliable, and so suitable for covering the surface well and closely, and encouraging local warmth as non-conductors.—*Therapeutic Gazette.*

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COUNTING THE RIBS.—Physicians are frequently mistaken in counting the ribs. One must never start at the clavicle. We must start from the suprasternal notch, obliquely and below which is the first intercostal space. Or again, by palpation of the sternum the first projection is the junction of the first and second piece, at which we find the articulation of the second rib. One is sometimes astonished at the space between the clavicle and third rib. One forgets the breadth of the first rib.—*Canadian Practitioner.*

FROM DR. SAJOUS, in "The Principal Objectionable Features of Intubation," published in the *New York Medical Journal*, we give the following conclusions:

"Recapitulating, we have, then: Obstruction of the tube by detached membrane, due to the limited diameter of its interior.

"Crowding down of loose membrane during the introduction of the tube, due to its inordinate length.

"Passage of food through the tube into the trachea, due principally to its weight.

"Momentary arrest of respiration during the introduction of the tube, due to the presence of the obturator.

"Liability of the tube to be coughed out, due principally to the limited diameter of the interior.

"Slipping of the tube into the trachea, due to its weight and to the conformation of its head.

"We have now considered the principal defects of intubation, and I have given you what to me seemed to be their origin. I may be right, I may be wrong in my conclusions. I give them to you for what they are worth—food for thought. Let me say, however, as an encouragement, that by eliminating from the statistics in my possession the cases of death that I thought might have been avoided, had the instruments reached the degree of perfection that they will some day reach, the proportion of recoveries, instead of 25 per cent., became 43 per cent. This is, of course, a mere estimate, imbued with a certain amount of guessing, but I feel confident that the time is not far distant when this record, at least, will stand to the credit of intubation. Then, even more than now, will O'Dwyer's patience and perseverance be appreciated. How many thousands of lives will it have saved!"

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BOOKS AND PAMPHLETS RECEIVED.

Mental Epilepsy. By L. W. Baker, M.D.

A Case of Broncho-Pulmonary Mycosis. By Wm. W. Waugh, M.D.

Hand-Book of Pharmacy and Therapeutics. Compiled by James E. Lilly.

Abuse of Alcoholics by the Healthy. By Stanford E. Chaillé, A.M., M.D.

A Contribution to the Pathology of the Cerebellum. By E. C. Sequin, M.D.

Feeding Patients Against the Appetite. By Ephraim Cutler, M.D., M.M.S.

"Renal Colic, Parasitic and Calculus." A Criticism. By J. B. Marion, M.D.

The Treatment of Wounds as Based on Evolutionary Laws. Pitfield Mitchell.

The Mechanism of Indirect Fractures of the Skull. By Charles W. Dulles, M.D.

A Case of Nephrolithotomy During the Fifth Month of Pregnancy. By Louis McLane Tiffany, M.D.

A Review of Twenty-Two Cottage Cases, Occurring in the Women's Hospital, in the Service of Dr. T. Gaillard Thomas. By A. H. Buckmasher, M.D.

Oration Delivered before the Alumni Association of the Medico-Chirurgical College of Philadelphia, on the Evening of Thursday, April 7, 1887, by Dudley Reynolds, A.M., M.D.

On Bacteria in Ice, and their Relations to Disease, with Special Reference to the Ice-Supply of New York City. An Experimental Study from the Laboratory of the Alumni Association of the College of Physicians and Surgeons, New York. By T. Mitchell Prudden, M.D.

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The Neurotic. By J. Milner Fothergill, M.D., London.

A Unique Case of Bi-Literal Athetosis. By C. H. Hughes, M.D., St. Louis.

Congenital Occlusion of the Posterior Nares. By Alvin A. Hubbell, M.D.

Progress and Development of Medical Science. By Hunter McGuire, M.D., Richmond, Va.

Cases of Poisoning from the Eating of Dried Beef. By R. Harvey Reed, M.D., Mansfield, O.

Address on State Medicine. Recent Advances in Preventive Medicine. By George H. Rohé, M.D.

Some Practical Reflections on Foreign Bodies in the Ear. By Richard H. Lewis, M.D., Raleigh, N. C.

Importance and Value of Experimental Research. Doctorate Address by N. Senn, M.D., Milwaukee, Wis.

Annual Report of the Special Committee on Surgery, 1886. Transactions of the Texas State Medical Association.

The Relation of the Nervous System to Hæmophilia, Malarial Hæmaturia, etc. Second Paper. By C. H. Hughes, M.D.

External Urethrotomy. A Plea for Its Early Performance in Minor Traumatisms of the Urethra. By L. Bolton Bangs, M.D.

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Infant Food and Infant Feeding. By Prof. Edgar Everhart, A.M., Ph.D., Professor of Chemistry University of Texas.

Resident Students of the Charity Hospital of New Orleans, La. Establishment of a Medical Library by the Louisiana State Medical Society. By Joseph Jones, M.D.

READING NOTICES.

H. HEWSTEAD, M.D., Canastota, N. Y.:—"I have used Lactated Food with infants and invalids. There can be but one opinion of the article after a careful trial. Children relish it that cannot be induced to take many of the so-called foods on the market. It certainly supplies a long-felt want for children with weak digestion, system suffering from marasmus and wasting diseases. In many cases where the mother's milk is worse than almost nothing, heartily endorse the Lactated Food."

IRREGULAR MENSTRUATION.—Miss H. had been suffering for years with Irregular Menstruation. Her periods were from five weeks to three months apart, and always attended with a great deal of headache, backache, and, in fact, most of the unpleasantness of menstruation. I had given her nearly everything I could think of, but without effect. Macrotys seemed to alleviate the head and back symptoms to some extent, but that was all. I gave her a bottle of ALETRIS CORDIAL one week before the expected period, directing one teaspoonful morning and night. What was my surprise when I found that her periods are just to the minute this month, and so much better in every respect, that she could walk around all day (having before now to keep the bed). I believe that this medicine is going to prove a boon to females suffering with diseases peculiar to them.

Warren, Mich. W. H. SMITH, M.D.

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NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D.,
} Editors.

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ORIGINAL COMMUNICATIONS.

REMARKS ON THE NATURE AND TREATMENT OF SO-CALLED PUERPERAL FEVER.

By WILLIAM C. DABNEY, M.D., Professor of Obstetrics and Practice of Medicine in the University of Virginia.

In a few remarks which I had the honor to make at the last meeting of the North Carolina Medical Society, I endeavored to show that under the old name, "Puerperal Fever," there were included two distinct affections, presenting a great similarity in their symptoms, but differing widely in their nature and results and somewhat in their treatment.

I wish to present now to the readers of the NORTH CAROLINA MEDICAL JOURNAL my reasons for the opinions then expressed.

I hope it will not be thought, however, that I consider these views new or original, but it seems to me they are extremely important from a practical point of view, and that they have not generally received the attention which they deserve.

The view commonly entertained now is that puerperal fever is

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puerperal septicæmia (Lusk), and this is doubtless the truth, but it is not the *whole* truth.

Barnes lays great stress upon the fact that puerperal fever may be either *auto*-genitic, that is, the poison may be developed *within* the body of the woman, or *hetero*-genitic when it is introduced from *without*.

In 1879 a committee was appointed by the Pathological Society of London to report on the nature of septicæmia, pyæmia and allied diseases. Mr. Marcus Beck was the chairman of this committee, and its report was published in the "Report of the Local Government Board" for the following year. This report, which was a most admirable one, related to *surgical* septicæmia, but I think I can show how exactly their conclusions apply to that affection, or rather, to those affections which have been called puerperal fever.

This committee stated that there were two diseases commonly included under the name septicæmia, one they called septic *intoxication*, the other septic *infection*.

The *first*, septic *intoxication*, was due to the absorption of decomposing, or, as they termed it, septic matter; it corresponds exactly with the *auto*-genitic puerperal fever of Barnes.

The *second*, septic *infection*, was due to the entrance into the circulation of a poison or germ capable of multiplication. This corresponds with the *hetero*-genitic puerperal fever of Barnes.

At the time that this committee reported nothing was known of the alkaloids of decomposition or ptomaines. It is needless to go into any description here of these singular bodies. The investigations of Goutier in Paris, Breiger in Berlin, and others have shown that some of them possess poisonous properties, and Kannel and Laulanié, in a paper read before the French Surgical Congress in 1885, endeavored to show their relation to septicæmia and the circumstances which influence the entrance into the circulation of ptomaines and microbes respectively.

Turning now to the symptoms of septic intoxication and septic infection, we find that in each there is usually a chill, high fever and prostration; but there is this striking *dis*-similarity: in septic *intoxication* as soon as the decomposing matter is removed the symptoms disappear; in septic *infection*, on the other hand, the symptoms continue in spite of the removal of the decomposing

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matters. Let me introduce here two cases, one surgical, the other obstetrical, in order to illustrate this point:

Case 1.—A little girl twelve years old fell and had her groin pierced by a piece of wood about three-quarters of an inch in diameter; no vessel or nerve of any size was injured, and, after carefully dressing the wound, I drew the edges together as accurately as possible in order to get more prompt union. It was in the earlier days of my professional life and before the days of antiseptic dressings. All went well for 72 hours, when the little girl had a severe chill, which was followed by high fever; the stitches were at once removed, a small quantity of sanious pus escaped, the wound was thoroughly cleansed and the fever disappeared entirely in a few hours.

Case 2.—On December 19th I attended Mrs. P. in her fourth confinement. Her labor was an easy one, and all went well till December 22d, when she had a severe chill, and when I saw her an hour afterwards her temperature was 105; the lochial discharge was rather scant and somewhat offensive. A copious vaginal injection was at once employed, and she was given 20 grains of antipyrin. Within two hours her temperature was 101, and the next day it was normal, and she made an uninterrupted recovery. Such cases have doubtless occurred in the practice of every physician; surely this is not *true* septicæmia.

Now, in each of these cases there was a wounded surface, in each there was retention in contact with that surface of some decomposing animal matter. It is plain, furthermore, that the substance which caused the chill and fever was not one which was capable of multiplication, for if it had been, the germs which had entered the body would have continued to multiply in spite of the cleansing of the wounded surfaces, and the fever and other symptoms would not have disappeared so promptly.

One other point, I think, is pretty well established, namely, that for the development of septic poison (ptomaines?) germs are necessary. When a wound is thoroughly protected by an antiseptic dressing neither septic injection nor septic intoxication occur, but it is highly probable, if not certain, that the germs of decomposition are *themselves* harmless.

Now let us compare the two cases (especially the second) which have already been described with the following:

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Case 3.—On December 15th, 1885, I attended Mrs. W. in labor with her first child. Her pregnancy had been a perfectly natural one, and she was the picture of health. On December 14th her nurse went to see her, *from a case of puerperal pelvic cellulitis*, and bathed her genital organs. Twenty-four hours afterwards her labor commenced with a chill, which was followed by a high fever; the fever continued throughout her labor, which lasted eight hours, and never abated till her death, six days afterwards, in spite of the free use of antipyrin and vaginal injections.

This case was a typical one of puerperal septicæmia or septic infection, running a rather rapid course and terminating fatally. There are several points about this case which illustrate important truths:

(1) The chill and fever commenced *before* her labor, and before, therefore, there were any sources of decomposition or probably any lesions of the mucous membrane.

(The bacteriologists tell us that the rod-shaped bacteria (bacilli) have the power of penetrating animal membranes far more readily than the micrococci or round bacteria. It will be remembered that each of these forms have been found in puerperal septicæmia.)

The germs of puerperal septicæmia, then, do not *require* decomposing animal matter for their development, and may enter the circulation even where no wound exists. Of course there is no *certainty* that there was no solution of continuity of the mucous membrane in this case, but it is generally conceded that such an injury is not absolutely necessary for the entrance of the germs.

(2) The germs in this case must have had the property of multiplication, for the amount of poison (?) originally introduced must have been extremely small, and yet it progressed steadily to a fatal termination, in spite of thorough cleansing with a germicidal solution.

Any physician who will take the trouble to look back over his obstetrical experience will, I am sure, recall many such cases as the second, and some, I fear, like the third, which I have mentioned.

Having considered the *nature* of so-called puerperal fever, we have to study, in the second place, the treatment of each of the two diseases which have been very briefly described.

I shall not attempt to present what seems to me the appropriate treatment in *detail*, but shall mention only the principles which

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should guide us in the management of each class of cases. It will be best, of course, to consider them separately:

1. *Puerperal toxæmia*, far more common, and, fortunately, far less serious than puerperal septicæmia, usually yields readily to treatment when it occurs, and can generally be prevented by proper precautions. What, then, in the first place, should the *prevention* treatment of puerperal toxæmia be? We have seen that the septic poison (not germs) is only developed when the germs of decomposition are present. Two things, then, are necessary for the development of septic poison: (1) The germs of decomposition. (2) Some substance suitably situated for undergoing decomposition.

Now, it is possible theoretically to prevent puerperal septic *intoxication* either by (1) preventing the access of germs to the genital canal, or (2), by removing any substance there which is liable to undergo decomposition.

As a matter of fact, both means are resorted to in practice, but by far the most simple and generally applicable is the removal of substances liable to decomposition by syringing out the vagina. Nor is this necessary in every case: it is only when the fetid character of the lochia gives evidence that something has been retained and is undergoing decomposition that injections are necessary. The fluid used in these injections should of course be germicidal in character, because it will destroy the germs of decomposition, and furthermore it may destroy any germ of genuine septicæmia which may be lurking there.

Thorough cleansing is absolutely essential, for as long as decomposing substances remain in the genital canal fresh ptomaines (?) will be found and a dangerous and even fatal fever may result. I have just said that the injections in puerperal toxæmia should be germicidal in character, but in pure toxæmia this is not *essential*, for the germs of decomposition are in themselves harmless.

2. *Puerperal Septicæmia.*—When we come now to consider *puerperal septicæmia*, however, it is manifest that, while the cleansing of the genital canal is useful and proper, because decomposing matter furnishes a very suitable soil for the development of septic germs, it is of infinitely more importance to prevent the access of these germs to the genital canal when they may gain access to the system and then multiply.

What means, then, should we adopt to prevent the access of dust

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germs, which always come from without? Antiseptic precautions furnish the only real safeguard, and while Dr. Thomas's method may seem needlessly thorough, there can be no doubt of its efficacy and the propriety of its adoption in *hospital practice* or in the *crowded cities*, especially when septic diseases are prevailing. In the New York Maternity, for example, the mortality has been reduced to less than 1 per cent. since the antiseptic method was introduced, while it ranged before between 2.36 and 8.69 per cent.

I have said that these precautions are requisite in hospitals and in crowded cities, but to what extent, it may be asked, should they be adopted in private practice in the country or in small towns? Certainly the frequent antiseptic injections and the antiseptic pad are not called for here as a rule. Thorough cleanliness, first on the part of the physician and nurse, and secondly on the part of the patient, is necessary in all cases. Furthermore, it is well for the physician to use on his hands an antiseptic solution (which he can always take with him) before making a vaginal examination. The extension of the placenta by Credé's method is desirable, and vaginal examinations after the labor is over should be avoided as far as possible.

The following conclusions seem to me to be warranted:

1. Two different diseases are commonly included under the name "puerperal fever." One is puerperal *toxæmia* or puerperal septic intoxication (*auto*-infection), and the other is puerperal *septicæmia* or puerperal septic infection (*hetero*-infection).

2. Puerperal toxæmia is due to the absorption of certain products of decomposition of animal substances, which are not self-multiplying, and which are probably produced by the action of germs which are themselves harmless.

3. Puerperal septicæmia is due to the entrance into the circulation of *specific, septic* germs which are capable of producing other germs similar to themselves and which are *directly* injurious to the human body.

4. The removal from the genital canal of all substances which are undergoing decomposition will prevent toxæmia, and will exert a certain effect on this disease after it has developed.

5. The removal from the genital canal of substances which are undergoing decomposition will *not* prevent the occurrence of puer-

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peral *septicæmia*, but will remove one of the conditions favorable to the development of the germs of this disease.

6. The only safeguard against puerperal septicæmia is the use of strict antiseptic precautions throughout the labor and subsequently.

7. Injections to remove decomposing substances from the genital canal should in all cases be antiseptic in character, because it is impossible in the early stages to diagnose puerperal *toxæmia* from puerperal *septicæmia*.

TINNITUS AURIUM.

By JOHN HERBERT CLAIBORNE, Jr., M.D., Instructor in Ophthalmology in the New York Polyclinic; Atttending Surgeon to the North-Western Dispensary, Eye, Ear and Throat Department; Assistant Surgeon to the Eye and Ear Out-Door Department, Bellevue; Clinical Assistant to the Vanderbilt Clinic, New York.

Perhaps there is no greater opprobrium to aural surgery than the frequent failure to relieve that most annoying and distressing symptom, Tinnitus Aurium.

It is a subjective symptom due to an irritation, in whatever way, of the special nerve of hearing. It usually accompanies deafness, of greater or less degree, and an enumeration of the causes of deafness would be an enumeration of the causes of tinnitus aurium.

It is our purpose to give only an outline of the conditions which may give rise to this symptom. The treatment which we shall suggest for it will also be the treatment for the attending deafness.

The noises are variously described by patients, as whizzing, popping, crackling, cracking, sizzing, roaring, etc., high-pitched and low-pitched noises, of great or little intensity. The prognosis with reference to this symptom depends entirely upon the recognition of its cause.

Let us start from without and review the conditions in the external auditory canal that may cause subjective noises in the ears. It is a well-known fact that foreign bodies of various descriptions find their way into the external auditory canal, either by accident

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or through the exploration of the outer ear, by sundry domestic articles—peas, beans, grains of wheat, of oats, sand, grits, pieces of hairpins, of tooth-picks, etc.—anything which human ingenuity can thrust into the canal to relieve the tickling sensation which is often felt there. All of these things, either by lying upon the drum, interfering with the atmospheric pressure, or by setting up an inflammation, may cause tinnitus. Parasites of various descriptions find their way into the canal, and by lying against, or crawling over the drum, give rise not only to great tinnitus, but also to extreme pain. The growth of certain fungi in this region, particularly on the drum, may cause tinnitus by the inflammation which they set up; among these are chiefly found the non-pathogenic fungi, the aspergillus niger, albus and the mucor mucedo. Instances are not lacking in which hair in the canal, growing towards the drum, may, by scratching against it, cause unbearable tinnitus.

One of the most fruitful sources of tinnitus is the accumulation of hardened or soft wax in the canal, lying upon the drum and interfering with the atmospheric pressure. Mingled with the wax, or even alone, may be found hardened and lumped epithelial scales. Tumors of the external auditory canal, of whatever nature, may, by setting up an inflammation of the part, pressing upon the drum, or interfering with the atmospheric pressure, cause subjective noises.

The tinnitus is increased through the injury often done the parts by exploration of the region with hairpins, tooth-picks, and, above all, by that most vicious and destructive instrument, "sold by all druggists," the "ear-cleaner." If there be any foreign substance or wax in the canal, the buyer, confident in the efficacy of the newly acquired "cleaner," rams, as with a rod, the charge down upon the drum, not only causing direct pressure upon it, but at times setting up a myringitis which may end in purulent middle ear catarrh, or else cause atrophy of the membrana tympani.

In passing from the external auditory canal we pass more or less out of the scope of the general practitioner; an average skill in manipulation, however, coupled with a comparatively extensive knowledge of ear diseases will enable one to entertain at least a reasonable suspicion of the cause of the tinnitus. As regards the drum itself, the following conditions may be enumerated as the chief causes of this symptom: Simple myringitis, inflammation of

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all the tissues of the membrana tympani; epithelial or pus-like tumours, situated on the cutaneous surface; cholesterine tumours; the fracture of the handle of the malleus; rupture of the membrana tympani from any cause; abscesses in the layers of the drum.

The middle ear may be the seat of an inflammation that causes tinnitus, or this may be combined with simple myringitis. The inflammation may be serous, sero-fibrinous or purulent, in which latter case there is, sooner or later, perforation of the drum; caries of the ossicula or adjacent walls, the former usually accompanied by perforation in Shrapnell's membrane, cholesterine tumours, etc.

The cause may lie in the throat (pharynx or naso-pharynx); catarrh of the Eustachian tube, propagated from the throat, the closure, partial or complete, of the ostium tubæ by inflammatory processes, or their results in the neighboring parts; eminently from adenoid vegetations in the naso-pharynx—polypoid growths on the third or pharyngeal tonsil. In such cases the tinnitus is obviously due to the fact that the atmospheric pressure is rendered unequal, in consequence of which the drum is driven inward by the pressure of the air through the external auditory canal. There are certain other conditions, rare, of which it is necessary only to make mention, membranous or diphtheritic inflammation of the middle ear, propagated from the throat. Before we proceed to the consideration of the internal ear let us review two causes of tinnitus, frequent causes, indeed, and simply functional ones. They are, on the one hand, general anæmia, on the other cerebral hyperæmia. The first is attended by the symptoms of general anæmia more or less marked—palpitation of the heart, shortness of breath in exercise, sense of uneasiness, malaise, etc.; objectively, an even palor of the general cutaneous surfaces, marked palor of the conjunctional sac, the vermilion border of the lips and the inner surface of the lips. If the patients are good observers they will perhaps tell the surgeon that the noises are improved by the drinking of any stimulant or after a full meal. We have in mind a recent case of a young woman who presented all the symptoms and signs of anæmia, save that she had a beautiful color in her cheeks, and who remarked to us, without inquiry on our part, that the noises ceased when she pressed her fingers against the side of her neck. We immediately took her by the nape of the neck and pushed her head to a level with her knees. She said the noises ceased immediately. In these

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cases the anæmic susurrus transmitted from the heart can be heard in the great vessels of the neck. The membrana tympani may be normal in appearance and the Eustachian tube be free and open. There may be no or very little lowering of the power of hearing. In these cases the treatment is most satisfactory and brilliant. On general principles, if the noises cease when the head is lowered or pressure is made over the carotids, or if they are lowered by the taking of stimulants while the symptoms and signs of anæmia are present, the diagnosis can be made with a great degree of certainty and a favorable prognosis with an equal degree. When tinnitus is due to cerebral hyperæmia the signs and symptoms present will point to the cause. These it is not our purpose to enumerate. Suffice it to say, exercise or excitement of any description will increase the noises, also lowering of the head or pressure over the carotid region. Rest, quiet and the erect position lessen them. In either case the condition of the external auditory canal, the throat, Eustachian tube and middle ear should be determined, for there might be conditions in these parts which increase the tinnitus, or in any given case of cerebral hyperæmia or general anæmia there might be tinnitus aurium which is not due to the anæmia or hyperæmia, since these conditions are not always attended by this symptom. When anæmia or cerebral hyperæmia are attended by tinnitus aurium it is probably due to a lack of equalization of the blood pressure in the ramifications of the auditory artery in the various apartments of the internal ear. These we must regard as mere functional modifications, and are, as we have stated, amenable to treatment; when, however, there are organic changes in this part, the tinnitus is constant and incurable.

The so-called Paracusis Willisi, that form of deafness in which hearing is better in noisy places, is usually accompanied by persistent and incurable tinnitus.

In Menières disease, the pathogenesis of which has not yet been definitely settled, the tinnitus is often most distressing, and the prognosis both for the life and hearing is unfavorable. The other symptoms attending this disease may enable the physician to arrive at a fitting diagnosis and prognosis, but it should not be forgotten that there are undoubtedly many conditions of functional disturbance of the organ of hearing that stimulate Menières disease.

Careful consideration and an intelligent system of therapy will

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reduce the chances of mistaking the diagnosis to the minimum. The deafness of boiler-makers which is accompanied by distressing tinnitus is rarely relieved unless treatment is instituted in the beginning and the occupation is changed. The prognosis for the power of hearing is likewise unfavorable in these cases. The continuous hammering of the artisans at work first increases, then exhausts the irritability of the auditory nerve, and we have no reason to assume that ultimately organic changes are not induced.

Proper treatment must be based upon a thorough appreciation of the cause. In many cases, this having been recognized, the symptom can be relieved. In the first place, the external auditory canal should be examined with the aural speculum and a head or hand mirror. If there be any foreign matter of any description, wax or hardened epithelium scales, they should be removed by *syringing* with warm water, or with a weak warm solution of the carbonate of soda in case of wax or epithelial scales.

Under no circumstances should a probe be used, either as a means of treatment or of diagnosis, unless, perhaps, in the hands of a consummate expert. In case the tinnitus be due to one of these obstructions, it will probably cease immediately after they are removed. At times some slight noises remain, but usually pass away in a day or two. It is possible for the pressure of the foreign bodies to cause a myringitis, or this with middle ear inflammation. Such events should be met in a manner presently to be described. If simple myryngitis has been caused, it is best to do nothing, save to put a plug of cotton in the ear to prevent the entrance of dust and cold. The instillation of warm solutions, oils, glycerine, etc., should be discountenanced, as they tend mostly to macerate the drum and increase its hyperæmia. In case the noises continue persistently after the removal of obstructions, together with pain, throbbing, etc., the middle ear has probably become involved. At this point it were well for the physician to be an aurist. At the hands of an inexpert the *noli me tangere* treatment is best—protect the ear by exclusion of air, by heat, general measures, derivation, etc.

When tinnitus is due to catarrhal middle ear inflammation, uncomplicated by myringitis, its treatment can be made brilliant and effective. It is usually accompanied by external inflammation in other parts of the body, particularly the upper respiratory tract. As general measures, systemic derivation, preferably by a saline

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purge, diaphoresis by Dover's powder, hot foot-bath at night, etc., or by a Russian or Turkish bath, though when the two latter are employed great care should be observed lest fresh cold be taken. The pharynx should be treated with gargles, spray, etc. The nasal passages should be cleansed and kept free of clogged secretions, not by syringing or snuffing up of water, but by *pouring* warm water or warm antiseptic solutions into the anterior nares. But above all, the main reliance is upon the inflation of the middle ear. This may be done imperfectly by the Politzer bag, but strict reliance can be put only upon the Eustachian catheter and continuous inflation through it for thirty seconds or a minute. We have seen the disagreeable symptoms of many cases of acute middle ear catarrh or catarrhus tubæ relieved by *one* inflation of one or two minutes. Tinnitus from these causes is particularly common in the bathing season of the summer months. In cases of this nature there is often fluid in the middle ear. When by inflation fluid is discovered and the noises are not relieved by several inflations, paracentesis of the drum is indicated. This may be repeated a number of times. After each paracentesis it is well to inflate. If the tinnitus be due to subacute inflammation of the part where there is stringy, sticky, fibrinous exudation, paracentesis combined with syringing of the middle ear through the Eustachian catheter, introduced in the Eustachian tube, will alone relieve the noises.

In the tinnitus of chronic middle ear catarrh inflation seems to be the only hope. In these cases there is no exudation, but a general sclerosis of the soft parts, with, at times, anchylosis of the ossicula.

We cannot refrain from mentioning in this connection the "pressure probe" of Lucae of Berlin. It is so arranged that pressure can be made and relieved alternately over the short process of the hammer. The instrument consists of a shank let into a barrel; by slight pressure the shank sinks into the barrel, offering a constant pressure. The drum having been illuminated, the cap of the probe is fitted over the short process and pressure is made and relieved eight or ten times successively. This is repeated on alternate days; no more pressure should be made than is given by the shank sinking into the barrel.

The instrument may be substituted by the thumb or index finger, placed over the tragus. By pushing the latter over the meatus and

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alternately making and relieving pressure with the finger, the drum and ossicula may be given a certain amount of exercise.

Several years ago inhalations of the nitrite of amyl were employed to relieve tinnitus in cases of chronic middle ear catarrh. A number of cases were reported in which it was claimed benefit had been obtained—in fact, that many had been entirely relieved. The test of further experience, however, caused a waning in the popularity of this method of treatment. We have seen it tried in a number of cases, but without any marked or certain benefits. On the whole, tinnitus attending chronic sclerosing middle ear catarrh, the main reliance is on the inflation of the middle ear, preferably by the Eustachian catheter, and the treatment of the upper air passages.

When tinnitus aurium is due to labarynthine disease, surgical procedures are at a stand-still. Charcot claims to cure Menières disease and its attendant unpleasant symptoms with quinine. With this we have no experience. In this disease the hypodermic injection of pilocarpine has been employed without much effect. The tinnitus of boiler-makers is irremediable except, perhaps, by prophylaxis. If the symptom proceeds from any surgical disease of the bone, operative measures are, of course, indicated.

130 Lexington Avenue, N. Y.

EIGHT SUCCESSIVE CASES OF GASTRO INTESTINAL AFFECTIONS OF INFANCY AND CHILDHOOD TREATED BY RECTAL INJECTIONS OF ICE-WATER AND SALOL (SALYCILATE OF PHENOL).

By W. B. Pritchard, M.D., of New York City.

Case 1.—Mary M., aged 1 year and 7 months, well developed and of healthy parentage. Was called to the case July 2, 10 A. M. The mother gave a history of vomiting and diarrhœa, beginning early on the morning of the previous day. I found the child unable to retain anything, very fretful and restless, especially at night, jerking its head from side to side, and with a twitching of the tendons of the forearm, indicating threatened convulsions. Heat of surface and head quite considerable. Axillary temperature 101°.

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Dejecta from bowels profuse, frequent and watery, containing curdled milk, and giving an acid reaction with litmus paper. Ordered,

℞.—Bismuth. subnit ..... 3 iij.
Cerii oxalat..... gr xv
Sodæ bicarb..... 3 ss
Ft. pulveres 1.

Sig: To be mixed with a cupful of milk, of which a teaspoonful was to be given every half hour until vomiting should be relieved. Gave an injection of ice-water (tea-cupful), which was retained ten minutes. Ordered,

℞.—Salol..... gr. x.
Ft. pulveres 10.

Sig: One powder every two hours. Directed the mother to give child no nourishment till evening. For relief of thirst, which was very great, I ordered powdered salp (half teaspoonful to a cup of water) given as occasion demanded. Salp is a mucilaginous powder, with some slight nutritive properties, and is substituted for acacia, boiled water, etc.

6 P. M.—Child sleeping quietly—a little fretful when aroused, but much brighter and less haggard than in the forenoon. Vomiting has stopped entirely—only two actions since morning injection. Temperature apparently normal, though no thermometrical observation was made. Ordered a turpentine stupe over abdomen, which was a little tender, and continued the directions of the morning. Directed the mother to begin the use of Horlick's Malted Milk Food, a new preparation, which does not require the addition of any milk for use, and the consequent possible introduction into the system of tyrotoxicon or other poisonous ptomaines of milk fermentation.

July 3d, 10 : 30 A. M.—Child much better. Temperature normal, expression natural. Two small actions since last visit. No return of vomiting. Ravenously hungry, and only fretful when denied food. Ordered bismuth preparation discontinued. Salol every four hours through next day. *Salp*-water as a drink to be continued, and child to be fed on Horlick's food for at least ten days, and allowed plenty of fresh air and out-door life. Inquiry at the end of a week resulted in the statement that the child had made complete recovery.

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Case 2.—Johnnie S., aged 11 months. Called to the child July 3d, 12 : 30 P. M., for the relief of convulsions. Found the child in the midst of a severe clonic convulsion, with great heat of head and cold extremities. Administered chloroform by inhalation with almost immediate relief. Child had been suffering from diarrhœa, with vomiting occasionally, for three days previous to attack of convulsion. There had been no action from the bowels in nearly twenty-four hours, howver, the result of half a teaspoonful of paregoric given by the mother on the morning of July 2d. The abdomen was considerably enlarged and hard to the feel of the fingers. I ordered a dose of castor oil, to be followed in one hour by an enema of warm water and gruel, and prescribed,

℞.—Pot. bromid..... ..... 3 i
Chloral hydrate..... gr xx
Aquæ ad..... ℥ ij

Sig: Teaspoonful every three or four hours, or oftener, if convulsions are threatened again.

5 P. M.—Found child better, but drowsy; temperature nearly normal. Bowels had acted four times since noon, and last action was slightly streaked with blood. Gave an injection of ice-water (cupful) and ordered complete abstinence from food for 10 hours, with salp-water to relieve thirst as before, and salol in doses of 1 gr. every three hours.

9 A. M., July 4th.—Child had slept well all night. There had been two small actions from bowels since last visit, free from blood, however. Temperature normal; abdomen reduced in size and soft and yielding. Discontinued bromide mixture and ordered Malted Milk Food; salol powder to be given every four hours.

5 P. M.—Child bright and playful; temperature normal; one action since morning; no nausea, and child takes food with relish—case discharged.

Case 3.—W. M., aged 2 years. Case brought to my office on the morning of July 3d, with a history of diarrhœa and occasional vomiting for several days. The mother had given the child a dose of castor oil two days previously, which had a temporarily beneficial effect, but the symptoms had returned in rather an aggravated form the next day and had persisted. Child vomited and passed loose liquid feces while under observation in the office. Gave an ice-

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water injection of nearly half pint and ordered bismuth and oxalate of cerium mixture in milk to relieve vomiting, and salol in doses of 1½ grs. every 2 hours.

6 P. M.—Found child relieved of vomiting. No action from the bowels since the morning injections until 5 o'clock, since which time there had been two watery discharges. Repeated the injection of ice-water, using a cupful, which was retained. Discontinued bismuth mixture and ordered salol every three hours. Directed the mother to feed the child on milk pancreatized by the addition of Fairchild's and Foster's extractum pancreates.

11 A. M. July 4th.—Child running about the room playing after having passed a comfortable night. One slight action since last injection, healthy in appearance and consistency. Directed the mother to continue the salol two or three times daily for two or three days before eating, and discharged the case.

Case 4.—Willie C., aged 1 year and 6 months. Was called to the case July 5th, 7 P. M. The mother gave a history of diarrhœa which had continued for three days, beginning with loose greenish evacuations, very offensive in odor, and occurring four or five times during the 24 hours. Had noticed that there were traces of blood and tenesmus on the third day (July 5th), and vomiting had set in almost immediately. The child had a very much enlarged and tender abdomen, was fretful, and had considerable fever. I gave an ice-water injection at once, and prescribed for the relief of vomiting the mixture of bismuth, oxalate of cerium and bicarbonate of soda in milk, as in cases 1 and 3. Ordered,

℞.—Salol..... gr xv

Ft. pulv. 10.

Sig: One powder every 2 hours. Directed the mother to put turpentine stupe over abdomen (first greasing cloth with some animal oil), and to sponge off the limbs and face with cold water occasionally.

9 A. M., July 6th —Patient entirely relieved of vomiting, but the diarrhœa persisting (free from blood, however), I gave another ice-water injection, and ornered the salol powder every hour. (I should have mentioned the fact that the mother had given the child a dose of castor oil early in the attack.) The bismuth mixture was discontinued with directions to resort again to its use should vomiting

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recur. Child had been allowed nothing to eat in 12 hours. I directed the mother to commence the Malted Milk Food. Thirst was relieved with pounded ice in a cloth, which the child was allowed to hold in its mouth frequently.

July 6th, 8 P. M.—I found the child very much better. Normal temperature, no vomiting, no tenderness over abdomen, and the diarrhœa had not recurred.

July 7th, 10 A. M.—Patient still improving, bright and playful, and with no return of symptoms. Only one action from bowels since last injection, nearly 24 hours previously. Directed the mother to continue the salol three or four times a day for two or three days, allowing no other food but Malted Milk preparation for at least one week, and discharged the case.

Case 5.—This was a case of simple fermentative diarrhœa, characteriz d by loose, watery actions, pale in color, occurring every hour or two in a child 2 years old. No vomiting, no abdominal tenderness. Slight nausea and some slight febrile symptoms. Ordered a dose of castor oil, (dessert spoonful) to be given with five drops of paregoric, and to be followed at once by salol in doses of one grain and a half. The mother reported the child as well the next evening.

Case 6.—Willie J., aged 7 months, a symmetrically developed, well nourished child, with a history of good health from birth to present attacks, though the mother has been a sufferer for years from congestion of spinal cord, and reflex nervous trouble, and the father had died of meningitis only a few weeks before the child's birth. I was called to the child July 7th, 10 A. M., to treat it for an attack which I diagnosed as threatened cholera-infantum, as manifested by frequent attacks of vomiting and diarrhœa simultaneously, a thin rice-water discharge characterizing the evacuations from bowels. As the child's appearance indicated a general congestive tendency, with great heat of surface, I saw no indications for the use of stimulants. Gave an injection of ice-water (half a pint), and prescribed for the relief of vomiting the bismuth mixture (for formula see Case 1). Ordered salol in doses of $\frac{1}{4}$ gr. every hour, and directed the mother to repeat the ice-water injection if there was any return of the diarrhœa. For the relief of thirst I advised the use of pounded ice in a cloth, which the child was allowed to hold in its mouth occasionally.

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Called again at 5 P. M., and found very little change in child's condition so far as appearance is concerned. The vomiting, however, and diarrhœa had ceased almost entirely, there having been but one attack of vomiting and two actions from bowels since morning. Surface cool and covered with a "gentle perspiration." Child presented the appearance of considerable exhaustion. Ordered brandy (burnt) in three drop doses, with a little water, slightly sweetened, every two hours, and placed the child on milk, to which I added :

℞.—Ext. pancreatis.. ..... gr v
Sodæ bicarb..... gr xv
Ft. pulv. 1.

Sig : One powder to pint of milk, to be heated to a temperature of 98° or 100° for 15 or 20 minutes, and then set on ice and used in small quantities every two hours. Continued the treatment and directions of the morning.

July 8th, 11 : 30, A. M.—Child apparently very much the same; no return of vomiting, but the diarrhœa persists and the character of the evacuations continues the same, loose, watery and containing undigested milk. Repeated the injection of ice-water and prescribed for relief of restlessness and fretfulness,

℞.—Pot. bromid..... gr xlviij
Aquæ..... ℥ ij
Sig : Teaspoonful every 3 hours.

July 8, 7 P. M.—No perceptible change in child's condition; evacuations from bowels similar in character and frequency to those of day before; no return of vomiting, but an evident aversion to the milk. Ordered diet changed to Malted Milk Food and directed the mother to continue the directions of the morning. After personally repeating the injection of ice-water.

July 9, 4 P. M.—Patient much brighter and less fretful, but will not take the Malted Milk Food except when forced by extreme thirst to take some liquid for its relief. Four evacuations from bowels since last visit, nearly twenty-four hours. No return of vomiting. I again gave an ice-water injection and ordered the continuation of the previously given directions.

July 10, 5 P. M.—Child really better; sleeping quietly after

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having made a hearty dinner of *condensed milk*, which the mother had taken the liberty of substituting for Malted Milk Food, which the child refused to take persistently. Condensed milk had been the child's diet since birth, which is a possible solution of its strangely happy effect in this case. Convalescence was rapid henceforth, and with occasional doses of salol and syrup iodide of iron in four drop doses *ter in die*, the child at the end of a week was apparently restored to perfect health.

Case 8.—Mary M., aged 14 months. Was seen at my office on the morning of July 8th. The mother stated that the child had been suffering for two days from diarrhœa; eight or ten stools a day, of frothy appearance and sour smell, producing excoriation of the buttocks and anal region to a very uncomfortable extent. This case, I thought, presented an opportunity to contrast the old treatment with that of ice-water injections and salol, and I therefore ordered,

℞.—Bismuth. subnit..... ℥ jss
Mucil. acaciæ..... ℥ j
Cretæ prep..... ʒ iij
Aquæ ad..... ℥ iv

Sig: Teaspoonful every 2 hours, with directions to add from 3 to 5 drops of paregoric to each dose, if the diarrhœa was not controlled after the administration of three or four doses of the above mixture. I gave the child a full teaspoonful of castor oil at the office. I directed the mother to feed the child on boiled milk with lime water. There was no history of vomiting in this case, and no evidence of febrile excitement. I did not hear from the case again until July 13th, when the mother called at the office again, but without the child, which, she said, was again affected with the diarrhœa, and that its condition was aggravated by the presence of a persistent nausea and vomiting, with fever and restlessness to quite a considerable degree. The child, she said, had improved at once after taking the medicine prescribed at a former call, and had, she thought, entirely recovered, but there had been a return of the symptoms, not superinduced by any error of diet, the day previous, and it appeared to be very much worse than at first. I called in at 10 A. M., and found the child's condition just as described by the mother—fretful, peevish, consumed apparently with

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an intense thirst, which the parents, however, made no attempt to appease, as water was rejected immediately upon being swallowed. I made careful inquiry to elicit, if possible, some tangible cause for the apparent relapse, but without avail. The child had been fed upon the boiled milk, with lime water, and had been given nothing else. I ordered bicarbonate of soda and peppermint water for the relief of vomiting, and gave the child small quantities of pounded ice for the relief of thirst, and administered an injection of half-pint of ice-water. I prescribed,

℞.—Salol..... gr x

Ft. pulv. 10.

Sig: One powder every two hours. I then left, ordering the injection to be repeated if diarrhœa persisted, and promising to call in the evening.

July 13th, 9 P. M.—Ice-water injections had been given at 1 o'clock and again at 5 P. M.; no stool since last injection. Had vomited twice since morning. Had rested quietly for an hour or two after each injection, after which interval the former restlessness and fretfulness returned. The child was sleeping quietly and respiration and temperature seemed normal. I ordered the directions of the morning continued, and directed the mother to give the child no milk, but feed it entirely upon Malted Milk Food.

July 14th, 10 A. M.—Child had spent rather a restless, wakeful night, but seemed brighter, and there had been no vomiting since 5 P. M. of the day previous. Diarrhœa still persistent and character of evacuations unchanged in appearance, though less profuse in quantity. The Malted Milk Food had been retained—it had been taken twice—and its administration had been attended with no nausea or symptoms of discomfort. I gave another injection of ice-water, ordered the salol continued, and directed the mother to give the child 5 or 10 drops of good whiskey every three or four hours in a little sweetened water.

July 14th, 8 P. M.—Child much brighter and every indication from appearance of decided improvement. Had slept two or three hours during the day and had manifested no symptoms of thirst or discomfort in any way. Two small, dark, semi-solid evacuations since morning. Temperature and pulse normal. Ordered salol powders to be given every four hours instead of every two, and to

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be continued for several days during convalescence, and the child to have no other food than that prescribed for five or six days. Did not see the child any more, but was told by the mother, who called at the office to consult me personally some ten days or two weeks afterwards, that the child had made a perfect recovery.

Case 8.—Willie C., aged 18 months. A small, pale, delicate-looking child, of healthy parentage, however, but living amid physical surroundings representing bad hygiene in an aggravated form. I was called to treat it for diarrhœa and vomiting. Saw the patient on the morning of July 12. Found him, as described by the mother, affected with persistent vomiting, of sour-smelling greenish matter from stomach, of a watery consistency, and frequent evacuations from the bowels of watery fæces, very similar in appearance to vomited matter. The child had the appearance of approaching collapse, its pale, cadaveric face, with pinched blue features and sunken eyes, indicating an immediate necessity for stimulation. I gave at once 10 drops of good whiskey, with an equal quantity of aromatic spirits of ammonia, which was fortunately retained, and ordered a repetition of the same every three hours. I prescribed,

℞.—Salol..... gr x

Ft. pulv. 10.

Sig: One every 2 hours, and gave an injection of warm water (½ pint, carbolic acid 3 drops) for the purpose of irrigating the bowels and stimulating the patient.

6 P. M.—Child asleep. Mother reports decided improvement during the day; no return of vomiting, and child much stronger and brighter. On awakening the child almost immediately passed a loose stool (the fourth since morning), very similar in appearance to those of the forenoon, and was fretful and restless. I gave an injection of ice-water and ordered the directions of the morning continued, with the exception of the stimulant, which I directed the mother to give two or three times daily as long as the child's condition indicated it.

July 15th, 9:30 A. M.—Child had passed a comfortable night, had passed two stools early in the morning, both more natural in appearance than for several days. No return of vomiting and no evidence of fever, and child seemed stronger and brighter, and was

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clamorous for food, which had been strictly interdicted for twelve hours. It took in my presence half a teaspoonful of pancreatized milk with great relish. No symptoms of nausea or discomfort. I directed the mother to continue the "salol" at intervals of three hours, and to feed the child on Malted Milk Food.

4 P. M.—Child still improving. Had taken and retained food three times since morning unattended with any symptoms of discomfort. Two small semi-solid stools had been passed since morning, both nearly normal in appearance and consistency. I directed the continuance of the salol and milk food for several days, and dismissed the case, charging the mother to give the child plenty of fresh air, to clothe it lightly, to avoid handling or fondling it at all, and to report promptly any return of the symptoms. At the expiration of a week I was notified (by request) by the father that the child was perfectly well.

The principles of inference and deduction, if applied to the above record, leave very little room for comment. The writer does not claim any originality of conception in the treatment outlined in the above cases, but in their application in suitable combinations the remedies and measures advocated above possess, it is claimed, an advantage over any other method of treatment with which the writer is familiar. With one or two exeeptions these cases all admitted of a diagnosis of so-called cholera-infantum, a justly dreaded and comparatively intractable affection of infancy and early childhood. As evidence of the unsatisfactory results of the existing methods of treatment, witness the therapeutic innovations with which the journals are filled with every issue. Dr. Emmet Holt, a justly accredited authority in the treatment of diseases of infancy and childhood, advocates the use of naphthalin and salycilate of soda, with strict prohibition of milk. Dr. Vaughn, of Michigan, follows the doctrines of the Old School except in the case of milk as an article of diet, which he condemns with even more emphasis than Dr. Holt. Resorcin, salycilic acid and iodoform has each its school, but the writer is convinced, from an experience of which the cases tabulated above may be taken as an example, that a fair trial of the measures herein advocated will result in giving them precedence over any others already extant.

243 W. 54th St., New York.

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SELECTED PAPERS.

PASTEUR'S ANTI-HYDROPHOBIC INOCULATIONS.

[We give our readers a criticism of the report of the British committee on the prophylactic inoculations of Pasteur against hydrophobia, as it is clearly stated and must carry weight with it. With the two examples of prophylactic inoculations—anti-smallpox inoculation and vaccination—two methods which were at their earliest introduction susceptible of demonstration and of being formulated in such distinct proposition that the items of exception were but explanatory. Will the world accept now a method of prophylactic inoculation which is so involved as that of Pasteur until all that is true in it has been crystalized and all the supernatant liquid drained away? When the old inoculations and the new are compared, will not the public be slow to adopt the new when it requires the skill of its discoverer or specially trained men to keep up with the details and the bill of exceptions? If Pasteur has made a genuine discovery he made a fatal mistake in promulgating it to the world until he was able to follow the memorable example of Jenner and give his discovery forth in lucid demonstrations such as have made the "Inquiry into the Causes of Variolæ Vaccinæ" a model for all investigators.—EDS.]

(From the *Medical Register*.)

"A CRITICISM ON THE REPORT OF THE ENGLISH COMMISSION ON THE PASTEUR METHOD, BY TH. M. DOLAN, M.D., F.R.C.S.

"The report of a commission, constituted as the English Hydrophobia Commission was, cannot fail to command the attention of the profession. It seemed to unite all those elements required to give security that the work be honestly and thoroughly done. The erudition of Sir James Paget, the conscientious accuracy of Lauder Brunton, the ripe experience of Sir Joseph Lister, the chemical skill of Sir W. Roscoe, were brought to the assistance of the two men who, we presume, were more immediately concerned with the experimental part of the research, and whose past work certainly qualified them to undertake the laborious investigations necessary to the full elucidation of the problem opened out by Pasteur. In Victor

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Horsley and Mr. Fleming the Commission had two men of the first rank, the former bringing to bear skill in modern scientific expert methods, the latter the ripe experience on rabies, which has made for him a world-wide reputation as an authority on this fatal malady. We have waited with some expectation for this report, and we are enabled to congratulate the Commission, constituted as it was, on the manner in which they have done their work. It is just such a report as we anticipated they would publish. There were certain personal difficulties in the way of the investigations, against which the committee tried to guard themselves, not very successfully freeing themselves from this personal equation. Pasteur's great name of itself carried weight with them; his previous researches commanded almost faith. The committee have evidently labored under this hero-worship. Hence the report lacks the thorough analytical character which would have been given were the committee dealing with a less-known man. The gods do not blame the gods; it is for the mortals to criticise and pick holes in the garb of the celestials. Irreverence and want of respect for medical authority are failings to which we confess we are liable, so that, as we have treated M. Pasteur with freedom, we shall not be expected to have much more respect for the annotators: finding fault where fault can be legitimately found with their reasoning, and giving credit where credit is due. Pasteur's work divides itself into two parts, which have to be considered separately :

"(1) The first question is purely experimental. Can dogs be rendered insusceptible against rabies by preventive inoculation? As a laboratory experiment, Pasteur has succeeded in making a certain number of dogs insusceptible. We believe this is beyond dispute. This laboratory experiment has no practical value, so far as being generally applicable, as it would not hold good for all dogs, and even if it did, there are certain other difficulties to be overcome before it could be put into general practice, so that we may then fairly say it has no practical value. It had, however, an experimental value; it induced Pasteur to try preventive inoculation for human beings. The Hydrophobia Commission first devoted itself to the experimental part, and have proved by experiment that M. Pasteur does produce rabies artificially, and the experimenter further succeeded in making a certain number of animals immune against rabies; that is to say, the animals so injected do not die after expo-

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sure to rabies, though certain other animals not protected succumbed. So far the Commission have sailed on plain ground. They differ from some continental observers in the results of their experiments, but experiments will differ, as we know but too well. Mr. Horsley's experiments were not very numerous, and certainly will not satisfy continental experimenters like Frisch, Abreu, De Renzi, Amoroso, etc. He experimented on *six dogs*, which he rendered immune. The six dogs were treated *à la Pasteur*, and then *two* dogs and some unprotected rabbits were bitten by dogs or cats that were rabid; the unprotected animals died, the six dogs survived. Mr. Horsley would appear to be solely responsible for the experiments, Mr. Fleming, no doubt, satisfying himself as to the existence of rabies; the other members of the committee in this part of the inquiry were necessarily guided by their experimentalist. Hence, though this report is indorsed by the Commissioners, we may take it that this is Mr. Horsley's work.

"(2) Now the second part relates to a question which comes within the region of logic, and to which we can apply the ordinary rules of evidence. The second part of this problem does not follow as a corollary from the first proposition; it has in reality no relation to it. Because in a certain number of cases M. Pasteur rendered a certain number of dogs immune to artificially induced rabies, it does not follow that he could, after a bite, give similar protection to human beings. If M. Pasteur treated a certain number of human beings in the same manner as he treated his dogs, and then allowed them to be bitten, the experiments would be on a par. *A priori* reasoning from one class to another class of experiments is not logical. Pasteur's success with one class of experiments, however, entitled him to a hearing with another class. The second part of the question, though in the domain of logic, and though depending for its solution on the interpretation of statistics, is yet not so easy to solve, the evidence is so frequently negative, the data varying. Briefly speaking, some 3,000 have gone to Pasteur and been inoculated, these people having been bitten or licked by dogs. Pasteur's school claimed that almost all these people had been saved from death from hydrophobia; *a reductio ad absurdum*. Roughly, the percentage of those who did not develop hydrophobia after the inoculation is small, and, looked at by percentages, the results are most striking. Here is the weak part in the chain of evidence.

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The committee themselves have pierced a very formidable hole in the method; in fact, they have dealt a blow at the system, perhaps the most severe that has yet been struck. Various percentages have been fixed on the proportion of rabies to bites. In a certain group the mortality is high, in another group it is low. Averages have been fixed on actually varying from 5 to 60 per cent., which shows that there are no scientific data as yet on the subject, and all is to a certain degree arbitrary. The committee have taken the lowest estimate, 5 per cent., for dog bites, and 30 per cent. for wolf bites, a percentage which will hardly please the Pasteurians. Here we may dwell on a series of observations which fully bear out all we have said in reference to the hydrophobia scare, and to the unreliability of the evidence that the persons who went to Pasteur were ever in danger of contracting hydrophobia. We require no further evidence on this question to convince our readers that our attitude has been perfectly justifiable. Prof. Burdon Sanderson, Dr. Lauder Brunton and Mr. Horsley went to Paris, and personally investigated the history of 90 patients whose names appeared on Pasteur's list; they are average cases. Now let us mark the result. In 31 cases there was no reliable evidence that the dogs inflicting the bites were rabid; in the others the bites were inflicted through the clothes; 24 were bitten on exposed parts by dogs rabid. We may dismiss the 31 bitten by non-rabid dogs and those bitten through the clothes; the 24 cases are of interest. Here the committee make a calculation which requires explanation. Taking the 90, the committee say 8 would have died had it not been for the inoculations. As they have already fixed a 5 per cent. mortality, we cannot see the justification for raising it; and as the 24 were only exposed, taking a mortality of 8 persons for the 24 gives a mortality of something like 32 per cent. The 66 other patients out of the 90 were treated just as the 24 patients. They were injected, and it is a matter of congratulation that they were none the worse for the treatment. Here we have a part of the problem upon which light is needed. If the Pasteur virus was efficacious in eating up the pabulum in the case of the 24, who, according to the committee, were exposed to the danger of contracting hydrophobia, what was its effect on those who really did not require the injections? This of course opens out the whole question. What is the nature of the rabic virus, and what is the nature of the antidote? It is not too much to say that

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we know nothing of either, and that the system rests on an empirical basis. The dosage is not even fixed. M. Pasteur is groping in the dark; he has changed his methods, the surest proof of the imperfection of his processes. The aggregate cases treated by Pasteur up to the date of the committee's inquiry were 2,634 persons. The committee form a very different estimate, indeed, from that shared by the late Prof. Vulpian (and they will probably cause some consternation amongst the ultra admirers of the method) as to the actual results in this number of cases. They give M. Pasteur credit for only saving 100 lives. This is, of course, something to be proud of, but it is very small, indeed, compared with the number claimed by some of M. Pasteur's countrymen.

"The committee, as scientific men, have not taken much notice of M. Pasteur's changing statements, or of the alteration in his methods. Poets are allowed poetic license, and M. Pasteur being, as it were, a kind of scientific poet, is accorded the same privilege. In estimating the mortality, and taking the figures at 100, the committee are obliged to ignore, or to interpret in another way, the actual mortality in France previous to the introduction of this method. We have it on evidence that the annual mortality in France from hydrophobia has been *thirty per annum*. The figures supporting this are admitted. To account for the saving of life and for the increased number of deaths, there ought to be, if Pasteur is correct, an average mortality in France which will approach 100. An assumption is thrown out that the annual mortality in France is a great deal more than that record—physicians, owing to the fear of hydrophobia, recording the deaths from that disease under a false name. This is not only an assumption, but almost a libel on the profession; it is not supported by a tittle of evidence. If such an assumption be allowed, a contra one may also be allowed to the effect that the death-rate in France is now too high, even at the 30 figure. Owing to ignorance as to what hydrophobia really is, cases of death are certified as being due to it which ought really to be classed under a very different nomenclature. The disorders mistaken for hydrophobia, as pointed out by ourselves and Dulles, of Philadelphia, are very numerous, and there are too many cases on record to prove this. We give an example: Mr. W. Robinson, Superintendent of Statistics for Scotland, reported to us that, during the years 1855 and 1874, inclusive, there were registered, under the

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heading of hydrophobia, the following cases, which, after full investigation, were placed under their true headings: A case of malignant pustule in 1885; five cases of snake-bite in various years; in 1860, three deaths from glanders; in 1862, one death from glanders; in 1871, three deaths from glanders and one from farcy. Here is evidence to show that mistakes of this kind do occur. Unless checked, the mortality from hydrophobia in Scotland would have looked much higher. Hypotheses and suggestions are double-edged weapons. Unfortunately, there is but too much hypothesis in connection with the second part of the report, and hence even the low estimate has very little scientific value. If M. Pasteur's work is to be simply judged by his own estimations, and by statements made by him to explain the discrepancy between the actual death-rate and this hypothetical death-rate, then the value of this report is lessened.

"We put this question in another form: If we have a 5 per cent. mortality—assuming that M. Pasteur has had 2,000 French subjects under his treatment—M. Pasteur would have saved 100 lives; if 10 per cent., 200; if 20 per cent., 400; if 30 per cent., 500; and so on up to the highest, 60 per cent. To balance these figures we would require a varying French mortality—in other words, the facts would have to fit the figures expressed in percentages. Unfortunately, the mortality in France antecedent to the introduction of the method will not fit the lowest estimate—even with 50 per cent. added.

"Lutand has pointed out that the death-rate has been higher since the introduction of the method, attributing the increase to M. Pasteur's intensive process. The committee, or rather we should say Mr. Horsley, because here we think we can trace his handwriting, show the personal equation we have alluded to. The unfortunate man Goffi died from what is known as dumb rabies, after being inoculated by the intensive process. Yet, in the face of the evidence, not only of the death of Goffi, but of the other patients who have succumbed, the committee try to whitewash M. Pasteur by throwing out the hypothesis that Goffi died from the virus of the cat. Still more, this is done even in the face of M. Pasteur's own recantation. Finding his intensive method yielding results which might be challenged, he has modified it: in place of using a cord one day old, he now uses one of five days. No deaths were caused by the first method, which appears by its effects to have produced no change upon the patients. The explanation of this has yet to be scientifi-

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cally solved. Theories may easily be put forward to account for the seeming inocuity of the injections.

"The *British Medical Journal*, July 2d, very justly observes, refering to the assumption that Goffi died of the virus of the cat: "This statement appears to go near to begging the whole question, for the matter in dispute is the behavior of the 'intensive virus' in man, and a most important element is the duration of incubation. The unusual nature of the symptoms also requires explanation, for the suggestion that the cases hitherto described under the term 'acute ascending paralysis,' or 'Landry's paralysis,' are, in many instances, examples of the dumb or paralytic form of rabies in man, rests upon the single observations of Mr. Horsley, and ignores the fact that a large proportion of such cases recover." This criticism is just, and it reveals to us that we really have to deal with Mr. Horsley, the report being *the voice* of the committee, it is true, but the interpretation being that of the secretary of the Commission. In the interests of science, it is a matter of regret that the death of Wild at Rotherham was not cleared up.

"What concerns us most in this report is the conclusion, and it is certainly a little surprising. Though convinced of the efficacy of the Pasteur treatment, yet we are not to have a Pasteur Institute in England. Our dog-bitten patients will have still to go to France and incur all the expense of such a journey. We are to have 800 persons bitten by rabid dogs annually—170 in London, because we have an annual mortality of 40 per year? Surely, there is something a little strange in this. Why should we not have the remedy at our own doors? We ask, why? The committee conclude by recommending what we have been impressing for the past twelve years—a more stringent regulation of dogs. Here we are in agreement. We said in our pamphlet, published in July, 1886:

"'*But something more is required than even a remedy for hydrophobia.* Even though Pasteur gave us a remedy against the bites of rabid dogs, yet we have something more to do—we have to extinguish the disease in the dog. *Combattre la rage, c'est prévenir l'hydrophobie.* Can rabies be extinguished in the dog?'

"We gave the evidence from the Hague, and insisted on the necessity of a new Dog Act:

"'At the International Congress, London, 1881, Dr. Van Cappelle (the Hague) read a very practical paper on the methods adopted in Holland to check rabies. I supported a resolution proposed by him

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to the effect that that Congress should declare it desirable that the governments of all civilized countries should agree as to the measures for the abolition of the rabies. In Holland a stringent Dog Act is in force. Dr. Van Cappelle furnished evidence as to the efficiency of this Act in limited rabies. I think a more stringent Dog Act is required in England; and I have drawn up an Act which, if applied, would certainly go far to keep dogs under better control, and secure for them better protection. I throw the responsibility on the owners of dogs. I said, in 1879, that if an Act framed on the above lines were passed, both the human and canine species would be protected, for rabies in a few years would be almost stamped out. We should not then have periodic seasons of panic; nor should we hear of the destruction of so many dogs during the temporary excitement caused by the dread of hydrophobia.

"'If any further evidence on the value of prophylaxis is required, it is furnished by the later returns from Vienna of Dr. Frisch, who went to Paris to study Pasteur's method. He tells us the more severe the dog laws and regulations, the greater is the guarantee against hydrophobia. Bollinger has recently given us statistics on the value of stringent police regulations in Bavaria (*Mün. Med. Wochenschrift*, March, 1886), and all who are interested in the subject will find in Bollinger's paper interesting statistics confirmatory of the views of Dr. Van Cappelle and of my own.'

"Now this Commission has spoken, we may expect that some measures will be put in force, and that we shall have in due time a Dog Act which will effectually stamp out rabies."

WARTS.—Fifteen grains of corrosive sublimate in one ounce of collodion is said to be effective painted on warts.—*Medical Register.*

THE PROPER POSITION AT WHICH TO OPEN A FELON.—In opening a felon the parts to be avoided are lines of the arteries and that of the flexor tendon, which is the median line. The felon should be opened midway between the artery and tendon. If necessary, it can be opened on both sides. If the sheath of the tendon is opened the tendon will almost always slough, and the finger will be useless.—*Dr. John Ashhurst, Jr., in Polyclinic.*

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UTERINE HÆMORRHAGE: A CONSIDERATION OF SOME OF THE LESS COMMON CAUSES AND THEIR TREATMENT.

By F. H. DAVENPORT, M.D., Assistant in Gynæcology, Harvard University. Read before the Section of Obstetrics and Gynæcology of Suffolk District Medical Society, April 20, 1887.

Hæmorrhage from the uterus, whether menorrhagia or metrorhagia, may be, as regards its cause, either active or passive; that is, it may result, in the first place, from the presence of something in the cavity of the uterus which directly attracts blood, causing active congestion; or, in the second place, from obstruction to the return of the venous blood, causing passive congestion. The importance of carefully distinguishing these two forms cannot be too strongly insisted upon, inasmuch as the treatment will be radically different as one or the other cause predominates.

It may be broadly stated that active hæmorrhage is due to causes inside the uterus itself, while passive hæmorrhage is due to causes outside the organ. As an example of the first, a submucous membrane may be instanced, and of the second, pelvic cellulitis. It will be readily seen, however, that in not a few cases both classes of causes may be operative. For example, a thickening of one or both broad ligaments may so interfere with the circulation as to induce congestion of the uterine membrane, and consequent menorrhagia. The prolonged congestion may lead to proliferation of the tissues and to so-called hyperplastic endometritis, or the development of polypoid growths, which themselves may actively determine an unusual flow of blood. The general distinction may, however, be maintained, and our treatment, in the one case, should be mainly intra-uterine, and in the other, directed to conditions outside the organ. This applies, of course, only to radical treatment, for we are often driven by the alarming severity of the flow to temporarily, at least, resort to the most effectual means, regardless of the predisposing cause.

Most uterine hæmorrhages are intermittent, the periods of severe, and possibly alarming, flowing being followed by intervals of either complete cessation, or very nearly so. When the flow is at its maximum little more can usually be done than to check it, reserving a more thorough examination to determine its cause for the interval of

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comparative quiescence. It is certainly a mistake to neglect such an examination. If the hæmorrhage occurs only at the time of the menstrual period in a young girl, general hygienic and tonic treatment should be tried before resorting to a vaginal examination; but if it occurs in the inter-menstrual period, whether the woman be married or single, and in any case in a married woman, its cause should be sought for by every means in our power. Too often the failure to do this in a case of beginning epithelioma, for instance, allows the favorable moment for the performance of a radical operation to slip by, and when the delayed examination is made, the disease is found to be so far advanced as not to admit of any palliative treatment.

This caution applies particularly to hæmorrhages occurring between forty and fifty, or at the time the menopause is expected. Irregularities in the amount of the menstrual flow in women of that age excite little alarm, for they are considered by the women themselves, and too often by the physician, as the natural accompaniment of the "change of life."

Certain statistics with regard to the comparative frequency of the various causes of uterine hæmorrhage, and the age at which they most frequently occur will illustrate the importance of this warning. Dr. Sneguireff, of Moscow, has written a monograph on uterine hæmorrhage, in which he gives a table prepared from all the data which he could collect, which shows the following facts: By far the most frequent cause of hæmorrhage from the uterus is cancer, constituting 25 per cent., or a quarter of all the cases we meet with. The next most common cause is fibroid, 19 per cent.; then metritis, 10 per cent.; endometritis, 8 per cent.; abortions and subinvolution, 5 per cent.; and twenty-two other less frequent causes, ranging from 3 per cent. to 1 per cent. each.

A second table gives the relative frequency of the different causes of uterine hæmorrhage at the different ages. From this we see that nearly 90 per cent. of cases of hæmorrhage from cancer occur in women over thirty-five, and 58 per cent. in those over forty-five; that nearly 50 per cent. of hæmorrhages from fibroids are in women over thirty-five, and 25 per cent. in those over forty-five, showing that nearly half of all cases of hæmorrhagia that we meet occur in the years about the menopause, and are due to the two grave affections, cancer and fibroid. In striking contrast to these statistics is the fact that less than 1 per cent. of such cases can be referred to the meno-

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pause as the sole cause; that is, where nothing else to account for it can be found.

Of especially grave import are irregular "flowing spells" occurring after the menopause is once established. No reluctance on the part of the patient to submitting to an examination should induce the attending physician to fail to insist upon its importance.

Another class of cases which is too often neglected is that where the menstrual flow is excessive. Many a woman is kept in a condition of enfeebled health from the monthly drain upon her system, in whose case a little care would so moderate the flow as to enable her to thoroughly recuperate in the intermenstrual period. I am convinced that there are cases, not a few, where the women are better off for not menstruating at all. They can ill afford to lose any blood, and if nature has not pointed out the true remedy by a state of amenorrhœa, any flow of blood should be looked upon as a hæmorrhage, and be treated as such. In such cases rest in bed and frequent hot-water douches will often reduce the flow to a minimum, or stop it altogether.

On the other hand, it is often a difficult matter in cases where the menstrual flow is profuse, to decide whether it is excessive, and needs to be checked or not. I have a patient who has always flowed a great deal, using on an average thirty napkins and passing numerous clots besides. When she was regaining her strength after an operation, I feared the drain upon her system was too much, and diminished the amount of the flow after the first three days by ergot and hot water injections. But severe headaches, increased backache, and bearing down followed, and I became convinced that in her case this large amount was none too much. There must be a great difference in the blood-making capabilities of different women, otherwise we cannot account for so great a monthly loss of blood in one case being not only not followed by bad consequences, but even necessary to a comfortable degree of health, while a third of the amount in another woman is a severe drain, from which she does not recover in the intermenstrual period, but grows steadily weaker.

Hæmorrhage during menstruation, or menorrhagia, rarely calls for active local treatment at the time, as the amount of blood lost can usually be controlled by internal medication, rest in bed and hot douches. Occasionally, however, the vaginal tampon is necessary. But a great deal can be accomplished by treatment during

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the intermenstrual period, both in the way of relieving congestion by local measures, and particularly by regulating the habits and mode of life of the patient. I have several times seen severe menorrhagia in young girls who were studying too hard and taking too little exercise, where removing them from school and from the excitements of city life, and insisting upon out-door exercise, with some ferruginous tonic, has resulted in immediate diminution of the amount of blood lost. A vaginal examination is often not necessary in these cases. Where I have made one I have usually found a small flabby anæmic uterus, cervix conical, and possibly anteflexed, and an absence of leucorrhœa. Here the bleeding seemed to be directly due to the atonic condition of the uterus.

By far the greater number of cases of hæmorrhage, both during the catamenia and in the interval, are associated with a congested, enlarged and sensitive uterus, and there is considerable leucorrhœa when the bloody discharge ceases. Sometimes we find nothing but the above conditions on local examination, and are forced to interrogate other organs, at a distance, as heart, lungs or kidneys, or to look for some morbid diathesis as a predisposing cause. In this connection some observations lately published in the *British Medical Journal*, are of interest. In investigating some questions with regard to phthisis, Dr. Handford found confirmation of the following maxims:

1st. Early or excessive menstruation is an important and common predisposing cause of phthisis.

2d. The female children of phthisical parents tend to menstruate unduly early and excessively.

In support of these views, in addition to some cases of his own, he quotes Dr. Grailly Hewitt, who says: "According to my experience, young women in whom there are signs of a tendency to, or an actual development of, tubercle, are very frequently the subjects of profuse menstruation, the cause being the defective and vitiated state of the blood."

It may be considered doubtful whether, as Dr. Handford states, menorrhagia is a *common* predisposing cause of phthisis, yet, in view of these facts, it certainly should be looked upon as a suspicious circumstance, when a child of phthisical parents flows early and excessively, and we should use all the means in our power to check it.

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As a rule, the vaginal examination will reveal some definite cause for the increased congestion and the consequent hæmorrhage, and this must be the object of our treatment. To enumerate the pathological changes which give rise to uterine congestion would be to go over pretty much the whole field of uterine disease. It may be of interest, however, to notice rather more in detail a few of the less common causes.

I have alluded above to atony of the uterus. I have occasionally found menorrhagia associated with a condition of anteflexion, usually of the neck, sometimes of both body and neck, in an anæmic woman, with flabby muscles, weak action of the heart, poor appetite and delicate digestion, and I have been rather at a loss to satisfactorily explain the logical sequence of events. I am inclined to agree with Grailly Hewitt in attributing the symptoms we find in these cases to malnutrition. He goes further than I would in considering malnutrition to be the most common cause of all uterine displacements, and their immediate results, but here I agree with him that the first factor of importance in these cases is an abnormal softening of the uterus due to too little food. When at the time of puberty the uterus develops, the body, which up to that time has been smaller than the cervix, fails to attain its proper size, and remains small and flabby, while the cervix bends forward on its axis at the internal os, and in time becomes permanently fixed in a condition of anteflexion, long conical, and pointing in the axis of the vagina. In these cases the menorrhagia, which is, to be sure, often only relatively profuse, is, as has been pointed out before, due to atony, and may best be treated by general hygienic and tonic treatment. Perhaps a more common cause of uterine hæmorrhage, and one which is quite frequently overlooked, is retroflexion of the uterus, especially when bound down by adhesions. Here the interference with the circulation is more marked, so that, in addition to a profuse menstrual dischage, there may be a slight but constant flow in the intermenstrual period. This often is hardly more than enough to necessitate the use of perhaps one napkin a day, and in some cases a profuse leucorrhœal discharge, at times brownish or tinged with blood, may be the only sign of congestion.

In the early stages the changes in the endometrium are very slight, but if the stasis be long-continued, there may result hyperplasia of the lining membrane, which in turn becomes a secondary

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and even more active cause of hæmorrhage than the original displacement. If treatment, however, be directed to the condition of the endometrium, either by astringent applications or by curetting, though temporary benefit may be attained, yet the diseased condition is likely to reproduce itself as long as the organ is in its abnormal position.

Treatment to be effectual should be primarily directed to the misplacement, and as adhesions are generally present in these cases, packing the vagina regularly with glycerine cotton tampons is the method most likely to be followed by success. This form of treatment fulfils several indications. In the first place, it is in my judgment the surest and safest method of overcoming the adhesions and restoring the organ to its normal position; in the second place, it usually is effectual in controlling the hæmorrhage; and in the third place, the glycerine, from its affinity for water, depletes the tissues and relieves congestion.

The following case will serve to illustrate this form of uterine hæmorrhage and its treatment:

Mrs. S. was first seen January 25, 1886. She was twenty-five years old, married three and a half years, has had two children, the oldest two and a half, the youngest fifteen months. She nursed her children, and the first menstruation since the birth of the last child came on in July, six months previous to my seeing her. This was normal in amount. The next catamenia flow was a week over time (the delay, as she thinks, having been occasioned by her going in bathing on the day her menses were expected), and she flowed profusely for a week. The same thing occurred in September. In October and November there was some improvement. December 8th, the sickness returned, and from that time until I saw her, a period of six weeks, she had only short intervals of a few days respite. At times there were smart hæmorrhages, but naturally the flow was moderate, and the patient kept about most of the time. She suffered considerable pain in back and right side, and the constant drain was beginning to tell on her strength. When she was not flowing there was a good deal of leucorrhœal discharge. The bowels were usually constipated. On examination, I found an enlarged and congested cervical portion, pointing in the axis of the vagina, the uterine body behind, and apparently fixed by adhesions

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in a position of retroversion with slight flexion. She was then flowing considerably.

I first carefully curetted the uterus with a dull wire curette, and removed a small amount of hyperplastic mucous membrane, and then tamponed the vagina tightly with glycerine cotton. This failed to control the hæmorrhage completely, some blood finding its way through the packing by the next day, but the amount was decidedly diminished. I removed the tampon the second day, and this time added a uterine plug of iron cotton to the vagina packing, which was successful in checking the hæmorrhage. Hoping that the curetting would be all that was immediately necessary, and thinking it would be wiser to delay the reposition of the uterus until the patient was stronger, no further local treatment was given, and, in fact, there was no return of the hæmorrhage for three weeks.

It then came on, and before I was called she had lost a great deal of blood. As this corresponded to the time of the catamenia, efforts were at first directed towards modifying, rather than completely checking the flow. Ergot, ergot and hamamelis and gallic acid were tried, and hot-water injections were given. The effect, however, was not what was desired, and a firm tampon of both uterus and vagina was resorted to, with good result. As it seemed evident that the ultimate cause was to be found in the displacement of the uterus, this time the systematic packing of the vagina was kept up during the inter-menstrual period, and the uterus was already in a much better position by the time the next menstruation was expected. This, though more profuse than was natural, did not call for any interference, and before the next sickness the uterus was in normal position, and the menstruation was of the ordinary amount. There has been no trouble since.

There is a form of hæmorrhage which is not very common, coming on in the early months of pregnancy. The history of the few cases I have seen is this: Somewhere from the second to the fourth month, usually without warning, there is a sudden gush of bright blood. This may be repeated a few times, the whole amount of blood lost not being very great, and this is followed by a slight, but persistent, bloody discharge, which lasts for weeks. At this time it is rarely bright, fresh blood, but of a dirty, brownish color. Usually there is no pain, and the patient feels perfectly well.

In one case which came under my observation there was the

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history of there having been a fall from a carriage some three weeks previously, and I found, on examination, retroflexion of the pregnant uterus. The uterus was replaced bimanually, and held in position by a pessary, but, as the flowing persisted, she was kept in bed for some weeks, hot-water injections given three times a day, and at the end of six weeks it stopped, and pregnancy went on uninterruptedly to full term.

Many of these cases, if left untreated, and the patient allowed to go about and exercise as usual, would result in miscarriage. The hæmorrhage seems to be the result of congestion, and though the cause may not always be so apparent as it was in the case referred to, yet the rest should be as rigidly enjoined.

Hæmorrhage following miscarriage due to the presence of a portion of the placenta should be energetically attacked by thoroughly emptying the uterus. If the miscarriage occurred between the second and fifth month, at which period of pregnancy the placenta is most likely to remain, I should not wait more than a few hours before taking measures to remove it. The dangers of delay are renewed hæmorrhage and septicæmia from decomposition, while the advantages of prompt action are that the cervix is usually so relaxed that the retained after-birth can be easily removed, and the patient is not in the weakened and exhausted condition which a continuance of the hæmorrhage or the onset of fever would occasion. In my experience if the placenta does not all come away with, or soon after the fœtus, it will not come spontaneously, and I have usually found it adherent over a small area at the fundus, the free portion coming down in the cervix and protruding. This is deceptive, for it gives the impression that it is detached, but held in the narrow cervix, and hopes of its being spontaneously expelled are aroused, which are quite sure to be disappointed. The finger, placental forceps, or various scoops which have been devised should be vigorously used under ether, until all of the placenta possible has been removed, leaving a roughened, shreddy surface where it was adherent.

A few words as to the value of, and indications for, internal remedies: The ones most commonly used are ergot, gallic acid, hamamelis, hydrastis canadensis and iron.

With ergot I have been disappointed, except in a few cases of fibroid during the time when the tumor seemed to be growing to-

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wards the interior, that is, changing from the interstitial to the submucous variety. When it had once got within the cavity and had become pedunculated, the ergot seemed to lose its effect. It has also proven of use in cases of subinvolution; but where the trouble is seated in the mucous membrane, as in cases of hyperplastic endometritis, for example, I have usually seen very little benefit, as regards the hæmorrhage, from its use.

Hamamelis alone, or with equal parts of ergot, I have also frequently given, but have been disappointed with the result. The mixture is exceedingly disagreeable to take, and has very little effect on the hæmorrhage.

With gallic acid I have been better pleased. Five to ten grains given in a wafer every three or four hours has often checked the flow, especially in cases where there is a great deal of passive congestion from some displacement or inflammatory condition about the uterus.

A good deal has been written lately in favor of hydrastif, and especially in Germany, surprisingly good results have been claimed in cases of menorrhagia due to endometritis and other pathological conditions of the lining membrane of the uterus. I have tried it only in one case, and then with no apparent benefit. It deserves a more thorough trial.

I have alluded to iron in speaking of atony of the uterus, and have often found it of great value in young women whose only complaint is excessive menstruation, and in that rare class of cases, chlorosis with menorrhagia. The tonic effect of the iron seems to be all they need.

The subject of uterine hæmorrhage is so wide a one that I have been rather embarrassed by the variety of aspects under which it might be considered. Many points of great interest have necessarily not been alluded to, and the consideration of those which have been touched upon has had to be brief. Still some light may have been thrown on some of the more obscure causes of uterine hæmorrhage, and I trust that the discussion will add much more of interest to this familiar subject.—*Boston Medical and Surgical Journal.*

AN INDUCEMENT.—An Australian doctor advertises to pay one-half the funeral expenses in cases in which he is not successful.

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TREATMENT BY INTUBATION OF THE LARYNX.

Dr. Dillon Browne, in the *Medical Record*, gives a tabulated record of 806 cases treated by intubation of the larynx, giving date, operator, sex, age, duration before intubation of laryngeal symptoms and pharyngeal diphtheria, albumen in urine, cause of death, complications and result, in each case, and recapitulates the whole as follows:

"Total number of operators, 65.

"Total number of cases, 806, with 221 recoveries, = 27.4 per cent. Male, 225; female, 198.

"Average age of fatal cases, 3 years 2 months.

"Average age of cases which recovered, 4 years 1½ month.

"Duration of laryngeal symptoms before intubation in cases of recovery, 2 days 9 hours; in cases of death, 1 day 19 hours.

"Urine contained albumen in 117 cases, and no albumen in 31 cases.

"In fatal cases, average length of life after intubation, 2 days 8 hours.

"In cases of recovery average time of tube in larynx 5 days 3½ ho'rs.

"Causes of death in 339 cases:

"Diphtheritic bronchitis	139
"Pneumonia	55
"Sepsis	37
"Exhaustion	33
"Nephritic complications	25
"Heart failure	20
"Pulmonary œdema	9
"Bronchitis	8
"Asphyxia, from clogging of tube	2
" pushing down membrane	2
" swelling over head of tube	1
" neglect to notify the operator after coughing out tube	4
"Tuberculosis	2
"Congestion of lungs	1
"Scarlatina	1
	339

In one case which recovered tracheotomy was performed to remove tube.

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CORRESPONDENCE.

STRICTURE OF THE ŒSOPHAGUS.

On the 28th day of December, 1886, A and B brought their child to me, aged 2 years. The child had, an hour before reaching me, by accident swallowed some concentrated lye. I immediately gave the antidote, but too late.

The child was not seen by me again until several weeks later. The parents would report every few days that the child was doing very well, but vomiting almost all the time, especially when it would eat or drink.

I went to see the child and found it making efforts to swallow, and it seemed in great distress, calling for water and milk almost constantly. Whatever was given her was promptly ejected. She was utterly unable to swallow a drop of fluid or food of any kind, and such had been her condition, seemingly, for sometime—for the child was very small and badly nourished.

The history was such as to make the diagnosis easy. We have now to deal with an organic stricture of the œsophagus, the result of a cicatrix. The cicatrix had gradually narrowed the calibre of the œsophagus, till, in consequence of some source of irritation of the stricture, deglutition became impossible.

I immediately returned to my office and took such instruments as I had, which consisted of stomach, nasal tubes and catheter. I made a mouth speculum of a piece of wood. At the first and second sitting I failed to pass even the smallest catheter, and on my return the third day, the parents had taken the child to F———, and put it under treatment of Dr. ———. His treatment, I learned, was trying to pass such instruments as I had failed to pass, but he utterly failed. The child was then being nourished by clysters.

Dr. ——— told the parents the last hope was gastrotomy. This the parents objected to, and brought the child home, after ten days' treatment under Dr. ———.

I was immediately sent for on its arrival. The child was not able to sit alone, and, unless relieved, she would soon perish of hunger

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and thirst. At this, the third sitting, I again failed to pass an instrument. Returned to my office *non-plused*. But, looking over my gynæcological instruments, I found a Simpson's uterine sound, and returning the next day to my patient, I gave the sound the proper curve, and succeeded in passing it through the stricture which required a great deal of *vis a tergo*.

The stricture was some four or five inches in extent, commencing at the junction of the pharynx and œsophagus and extending downward near the cardiac orifice of the stomach.

By gradual dilatation I succeeded in passing a catheter equal in size to a No. 8 on the American scale, and in eight or ten sittings could pass a No. 13 of the same scale. After each sitting I would have her fed on milk.

I will quote from Dr. Schell, who reports a similar case in the *Indiana Medical Journal*. He recommends the English bougies with the olive point, such as are commonly used in stricture of the urethra. He says: "They are, in my opinion, the best instruments to use for a similar purpose in stricture of the œsophagus, especially in children. They are more easily handled than the œsophageal bougie and are cheaper. They are sufficiently long for every use which we may have for them in children, and can easily be introduced into the stomach."

This is very true in some cases, but I tried the bougies and they were too flexible. No instrument suited this case better than the catheter with the wire left in it, and very often it would bend. I also tried an œsophageal dilator, but it failed to be of any service—it is a very expensive instrument, too.

The little child whose case I have reported gained rapidly in flesh under treatment. She is now running about in good health, and seems well except a cough which has been troubling her ever since she swallowed the lye.

"Since the finger must be introduced far into the mouth, it must be well wrapped, otherwise the child will constitute itself into an instrument of torture. This advice is also good in the introduction of the stomach-tube in morphia poisoning, as I have recently had occasion to learn, even where a good speculum was used."

I found the handle of a spoon to be the best instrument for opening her mouth. The child always resisted, and the spoon-handle

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being thin, could easily pass between her teeth when it was turned edgewise.

The parents are rather negligent with the child. It is brought to me now for treatment only when the symptoms are urgent.

The result in these cases is usually, in the end, unfortunate; still, with proper treatment, life can often be prolonged many years. Death usually results from some disorder of nutrition.

"In cases of malignant disease of the œsophagus, I think, as a rule, gastrotomy ought to be performed, unless the diagnosis is made very late. Of course the end is the same, but I think life would be prolonged and many of the most distressing symptoms would be avoided. It ought not, I think, be done for organic stricture, at least, not when any instrument can be passed."

J. R. PEARSALL, Manchester, N. C.

AN INTERESTING CASE OF DROPSY.

During the month of June I was called to see Mr. H., and upon my arrival I found him suffering to an alarming extent with dropsy. By questions as to his manner of living, etc., I was informed that he had been an habitual whiskey-drinker all his life, although by no means an habitual drunkard. I first examined his urine, and found it to be very small in quantity, very pale in color, emitted a very disagreeable odor, very high specific gravity and albumen in enormous quantities. I am sure that I never saw more in any specimen in my life. I noticed at the same time an enlargement in left side resembling a fever-cake, which I could not account for, as he had never been a sufferer of malaria to cause an enlargement of spleen. At times, too, it would pulsate. I thought it probable it was an abscess of the spleen. A hypodermic needle having been introduced was withdrawn full of pure clear water with an alkaline reaction. I applied test for albumen and found with nitric acid it gave a white precipitate. By this time I was alarmed to know the real cause and pathology of this enlargement. I turned my attention for a time to the kidneys and found the left kidney much enlarged, and that the enlargement was continuous with the en-

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largement of the spleen, as I had thought. I then was relieved, to some extent, for I decided the trouble to be dilatation of the tubes of the left kidney. If this was wrong I don't know what it was. It is well enough to state, however, that the patient had been suffering with dropsy for sometime before this enlargement was noticed. My diagnosis, or rather my idea of the primary cause of the trouble, was Bright's disease of the kidneys.

Treatment.—Patient had been under treatment of other physicians and knew a great deal about what he had been taking, and told me that it was "no use to give him jalap or cream of tartar, for he had worn it out, and that the largest doses would affect him only to make him worse." My first prescription was eleterum, $\frac{1}{4}$ grain, cream of tartar, 10 grains—3 times a day; tr. digitalis, tr. belladonna, each 10 drops. every 2 hours. Very soon he began to improve, but I was forced to drop the eleterum because of its depressing effect if given in doses sufficiently large to do any good. I then put him upon *Stillé's* prescription of digitalis, squills, com. spts. juniper, acet. pot., iodide pot. Also gave two tablespoonfuls Epsom salts every night just before going to bed. Upon this treatment he mended nicely. The enlargement passed away and never made its appearance again. In the meantime he had a fall, causing injury to the knee-joint, and a severe inflammation set in, which resulted in ulceration.

Amputation was advised, but patient refused to allow the operation. Constitutional and local treatment improved the condition of the injured limb for awhile, but chills and fevers (probably septic) set in, and he rapidly passed away.

Now, one of the strange features in this case was the amount of digitalis the patient could take and which was absolutely demanded to keep up the action of the heart. In my first prescription was 10 drops every 2 hours. It was found to be insufficient, when I prescribed in my second 30 drops, 3 times a day. Afterwards, when the dropsy had passed off, I was forced to use from 25 to 40 drops every hour.

Drs. Vick and Crawford, of Selma, were called by myself to see him at the time when I was administering from 30 to 40 drops *every hour.* During all this time while he would take the digitalis his heart acted *nicely* and had a *good strong pulse,* that is, his pulse would be good after the administration until the hour was nearing

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its close, when it would begin to flag, but so soon as the drug was given again, it would rally and be as good as ever. This was the case through the latter stages, and I saw him just before his death, and his pulse was good. I am satisfied that digitalis kept him alive two months.

This was to me a very interesting case. I have reported it because I wanted to impress the fact that, to get the benefit of medicine, we must push it till we get its full effect, and to know when we get that we must watch our patients.

I have not given all the minute points of treatment, but if I have put any one to thinking, it is a satisfaction sufficient for me.

L. G. BROUGHTON, Kenly, Johnston County, N. C.

A MATTER OF HISTORY.—Dr. James Norcom, of Edenton, N. C., was the first physician in North Carolina that ever took off a leg. He performed the surgical operation about 1814, and it was looked on as a great triumph of medical skill. The negro got well, and when he came out on the streets crowds followed him, and he was an admirable hobbling advertisement for the doctor. His practice extended far and wide as a great surgeon. The other doctors in Edenton were not slow in finding out that Dr. Norcom had a reputation above and beyond all the others; nor were they slow in finding out that his reputation was owing to his taking off the negro's leg, and they naturally, one and all, took to cutting off negroes' legs. If a negro had a sore on his heel, his leg came off. If he had rheumatism, his leg came off. If he broke his leg, it came off. If he sprained his ankle, his leg came off. If he stumped his toe, his leg came off. Therefore it can be easily seen how "one-legged negroes" became as conspicuous on the streets of Edenton as "pretty girls." From 1814 to 1820 it was as common to cut off a negro's leg as it is now to give quinine for malarial epigastritis.—*Elizabeth City Economist.*

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REVIEWS AND BOOK NOTICES.

WHAT TO DO IN CASES OF POISONING. By WILLIAM MURRELL, M.D., F.R.C.P. Edited by Frank Woodbury, M.D., Medical Register Company. Philadelphia. 1887. Sm. 8vo. Pp. 158.

This work appeared recently in the columns of the *Medical Register*, and has been edited by Dr. Woodbury and reprinted. Dr. Murrell has been known for sometime in England by his work in toxicology, and we are glad to add this useful volume to our armamentarium in cases of necessity. The subjects are arranged alphabetically to facilitate ready reference. The author has made the book far more valuable by adding the names and approximate composition of many of the nostrums of the day that have poisonous properties. Great perplexities many times arise from a lack of knowledge of the harmful ingredients contained in many of them. It is especially useful to be able to assure a patient who, by mistake, has taken what is to him an unknown substance. The writer recollects how great was the relief caused by assurance that a certain powder sent by mistake of the apothecary was harmless. Compound licorice powder had been ordered and the patient got fly-poison—powdered pyrethrum—instead. *Nothing but good results* followed the insect powder, and afterwards, when all danger was past, considerable amusement was had at the patient's expense. But to return to our book: Dr. Woodbury has made what corrections were necessary to make the text agree with the U.S.Ph., and a close examination does not reveal any omissions by the author, but a fuller and more complete list of substances and antidotes than we have seen in similar works.

WILLIS AND GEORGE III.

We are reminded of the importance of medical opinions by the interesting account given in Lecky's recent volume (V.) of his "History of England in the 18th Century."

"Dr. Willis was a clergyman as well as a physician, and he had for the last twenty-eight years kept an asylum for insane persons in Lincolnshire, and had treated them with extraordinary success. Like most specialists, he had his enemies, and by some he was considered little better than a mountebank; but though the other doctors about

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the king may have ranked higher in their profession, none of them could speak on a question of insanity with so great a weight of experience. Dr. Willis, on seeing the king, at once declared that his recovery was almost certain, and that it was likely to take place in a short time. This was in 1788. The management of the case was placed mainly in the hands of Dr. Willis, who resided permanently at Kew. "A new treatment was adopted; it was noticed that Willis at once obtained a complete ascendancy over his patient, and some slight improvement was already visible."

The king recovered in 1789, according to Willis' prognosis, although he had relapses which became permanent in 1810.

Willis' name has descended to us, and more permanently than as an alienist, by reason of his researches in the anatomy of the brain.

A MANUAL OF TREATMENT BY MASSAGE AND METHODICAL MUSCLE EXERCISE. By JOSEPH SCHREIBER, M.D. Philadelphia: Lea Brothers & Co., 1887. Price $2.75.

Massage has been largely in the hands of "professionals" who have increased their own importance and added mystery to their art by a multiplication of almost superstitious observances.

This volume is written with great faith in mechano-therapy, and the author has succeeded admirably in raising the art from its former doubtful position to that of an admirable auxiliary of recognized medication.

It seems to us that no one can read this book without gaining the impression that in "massage" we have a broadened field of treatment in many diseases, and that the younger practitioners, who are not so irreconcilably wedded to the old that they can see nothing in new methods, will be stimulated to a diligent mastery of the art.

Minute descriptions of methods are given with accompanying illustrations, so that there need not be the least difficulty in understanding all the author intends to convey.

The author says that it is a curious fact that, while in Sweden, Germany, Austria, Russia, England and America, many eminent scientists are seeking to further its progress, by both word and deed, in France, where, twenty years ago, so much activity was displayed in this field, and so many valuable ideas brought to light, at present it is the exception either for a clinician to prescribe mechano-therapy, or for any one of scientific attainments to busy himself with it."

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But how much of this statement comes from national prejudice may be conjectured from the fact that Prof. Dujardin-Beaumetz is contributing elaborate articles to the *Therapeutic Gazette* on this subject.

If the arts of mechano-therapy can be accomplished by the practitioner by reading a book, he will be able to get it from this one.

ILLUSTRATIONS OF CLINICAL SURGERY. By JONATHAN HUTCHINSON, F.R.S.

This is the 19th fasciculus and last but one of this admirable work, which is to be completed in this, the second, volume. The plates illustrate "Injuries Near to the Wrist," "Elephantiasis of the Prepuce," "Various Cases of Elephantiasis" "Elephantiasis of Both Legs."

Mr. Hutchinson's general remarks on elephantiasis are, like all of his clinical teachings, remarkably clear and judicious. He says it is not difficult to understand the nature of elephantiasis if we begin with the study of early cases. It is only in its advanced and exaggerated forms that the disease assumes grotesque and extraordinary features. He does not believe that there is any real distinction between the elephantiasis of the tropics and that which occurs in Britain. The difference in frequency is the only one he can trace. There can be no doubt that an unhealthy climate, the exposure to a hot, moist atmosphere and other influences which impair the general tone of the system, have a very important influence in favoring the development of elephantoid conditions. It is probable, also, that the presence of the *Filaria sanguinis hominis* takes its share in aggravating the disease, but abundant clinical facts make it quite impossible to believe that this parasite is the sole cause of the disease, or of any peculiar form of it. Attacks of inflammatory œdema, repeatedly recurring, are the almost constant precursors and causes of elephantiasis. It is to be regretted that these sumptuous volumes are so expensive that they will not be widely circulated.

"ON A NEW CRANIOPHORE FOR USE IN MAKING COMPOSITE PHOTOGRAPHS OF SKULLS." By JOHN S. BILLINGS and WASHINGTON MATTHEWS.

This is a pamphlet in 4to form, containing four photographs of the apparatus, with a preliminary description. The contribution was made to the American Academy of Sciences, being the 14th memoir of Vol. III.

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INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON GENERAL'S OFFICE, UNITED STATES ARMY. Vol. VIII. **Legier-Medicine** (Naval). Washington: Government Printing Office, 1887.

Another huge installment is before us in the eighth volume of the Index-Catalogue.

The summary of the contents of this volume, as stated by Dr. Billings, is as follows: Titles, 86,979, volumes, 44,559, pamphlets, 72,902, book-titles, 83,155, journal articles, 278,231. We have become so much accustomed to this table of figures as volume after volume have issued from the press, that we are no longer astonished at the immense work of cataloguing this immense library.

The title "Medicine" covers 288 pages, and is yet not completed in this volume. The great difficulties which beset the librarian in preparing this list can only be appreciated by the librarian himself.

We notice under the head of MEDICAL SOCIETY OF NORTH CAROLINA (Transactions) that there is wanting in this library Transactions for 1851 and 1854, and if this meets the eye of one of our readers who owns these two volumes, we request that he send them to Dr. Billings, or to the JOURNAL, and they will be forwarded.

As this great work approaches its completion it is a cause of congratulation to the profession that its able editor has been spared to push it forward. With its completion the medical profession of the world will have the completest bibliography in existence—certainly the most accessible one of all. We congratulate Dr. Billings and his able assistants, who have for so many years had this great work in charge, that the precious collection they have had in hand for all these years, is now about to be housed in a building as nearly fireproof, and as well adapted to the needs of a library, as can be.

DOSE AND PRICE LABELS OF ALL THE DRUGS AND PREPARATIONS of the U. S. Ph., 1880, together with many unofficial articles that are frequently called for as medicines or used in the arts. By C. L. LOCHMAN. Dunlap & Clark, 819 Filbert St., Philadelphia. 1887.

This is a unique publication serving as well as a reference book of articles and dose-book, as a book from which labels may be cut for bottles. The printing is clear and the dosage is reliable. A blank space is left on each label to mark the price. Tables are given for the conversion of the Fahrenheit scale, for graduating

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doses for age of patient, tables of weights and measure showing weight equivalents, the metric standards and equivalents, abbreviations used in prescriptions, list of incompatibles and dangerous compounds of drugs. To druggists and physicians who dispense their own medicines it is very valuable. Mr. Lochman is an accomplished pharmacist, the translator of the German Pharmacopœia, and knows the needs of the two professions.

SEXUAL IMPOTENCE IN THE MALE AND FEMALE. By WILLIAM A. HAMMOND, M.D., etc., etc. Detroit: George S. Davis, 1887.

Another work on sexual impotence seems hardly necessary after the late work of Dr. S. W. Gross, but of the "making of many books there is no end."

The author says in his preface that "Probably more unhappiness is caused by sexual impotence than by any other disease that afflicts mankind," and this, we admit, may be a just estimate, but it is not a work which will interest the great body of the profession, but only the few whose patrons are among the most self-indulgent or the most debased of creatures, with occasional rare exceptions.

There is nothing lacking in this volume to show the author's thorough mastery of the subject. The publishers have issued the volume in good style.

THE STUDENT'S GUIDE TO DISEASES OF THE EYE. By EDWARD NETTLESHIP, F.R.C.S. Third American from fourth English Edition, with a Chapter on Examination of Color Perception by WILLIAM THOMSON, M.D. Philadelphia: Lea Brothers & Co., 1887. 8vo. Price $2.75.

Nettleship on the Eye has been a trusted hand-book for several years, and we welcome this new and enlarged edition with pleasure. It is especially adapted to the use of the general practitioner—the country doctor—the man of all-work, who has to show his skill in all the departments of medicine—and this is a numerous class throughout the South.

The proper place of cocaine in ophthalmic surgery is fairly and concisely stated, and all the practical advances have been carefully noticed since the earlier editions.

Many new illustrations have been inserted and the text increased by thirty pages. It is handsomely printed and is a compact and handy volume.

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ANÆMIA. By FREDERICK P. HENRY, M.D. P. Blakiston Son & Co. 1887. Price 75c.

One is enticed by this little book by reason of its dainty French-like binding and beautiful typography, resembling the new American volumes of Balzac, which are so popular. But its merit does not consist in this alone, for the subject matter is of value and well worth a careful reading. Anæmia is so often spoken of and written about, and treated in such a loose and indefinite way, as to show how much need there is of a thorough restating of the whole case, and this our author does clearly and instructively. We will always welcome his writing as good, and enjoy this new departure in book-binding and this clear type.

ETOWAH. A Romance of the Confederacy. By FRANCIS FONTAINE.

We have received advanced sheets of this romance. It is not in our line to review works of fiction, but we cannot conceal the intense interest we feel in the ante-bellum South. To the outside world it is a land all unknown, and to the skilful fiction writer it affords unending material.

The South will be fortunate if she has for her romance writers men and women of her own blood, as is the case of the author of *Etowah*.

As far as we can see this pleasant story is made to include some valuable things for the younger people of the South to know of their ancestors, and it will have a large sale, and one-half of the sale will be devoted to the building of a Veteran's Home in Atlanta.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. Vol. I. 1886.

This is the volume of annual transactions of an exclusive association of physicians having a membership of one hundred. We notice the Southern names: Dr. F. Peyre Porcher and Dr. Joseph Jones. The volume is comparatively thin, as compared with the old Transactions of the American Medical Association, but all extended business details are excluded, and we have nothing presented to us but finished products, and pretty good they are. There are 19 contributions, viz: "Chronic Catarrhal Gastritis," etc., by Francis Delafield, M.D.; "The Tendon-jerk and Muscle-jerk in

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Disease, and Especially in Posterior Sclerosis," by S. Weir Mitchell, Member of the National Academy of Sciences, and Morris J. Lewis, M.D.; "Method of Managing Typhoid Fever," by F. Peyre Porcher, M.D.; "Does the Present State of Knowledge Justify a Clinical and Pathological Correlation of Rheumatism, Gout, Diabetes and Chronic Bright's Disease?" by James Tyson, M.D., *referee*, and W. H. Draper, M.D., co-*referee*; "Spasm of the Glottis in Rickets," by James T. Whitaker, M.D.; "Notes on Some Cases of Diaphragmatic Pleurisy," by Edward T. Bruen, M.D.; "Certain Elements Found in the Blood in Cases of Malarial Fever," by W. T. Councilman, M.D.; "Tetany," by Henry M. Lyman, M.D.; "Periuterine Inflammation," by William M. Polk, M.D.; "An Experimental Study of Glomerulo-Nephritis," by William H. Welch, M.D.; "The Bicuspid Condition of the Aortic Valves," by William Osler, M.D.; "The Bacillus of Typhoid Fever (Typhus Bacillus of Ebenth)," by George M. Sternberg, M.D.; "Experimental Myotic or Malignant Ulcerative Endocarditis; with Demonstration of Specimens," by T. Mitchell Prudden, M.D.; "A Clinical Study of Lateral Hemianopsia," by E. C. Seguin, M.D.; "The Pig-backed or Alcoholic Kidney of Drunkards," by H. F. Formad, M.D.; "A Case of Hodgken's Disease," by F. Forcheimer, M.D.; "Pancreatic Hæmorrhage and Sudden Death," by T. M. Draper, M.D.; "Notes of a Case of Hepatico-Bronchial Fistula," by J. E. Graham, M.D.

The volume is well produced typographically, and we will not grumble with such scientific work, even if it is from a seclusive body which takes away some of the best material from other societies. There is room enough in this broad land for societies of the two species which may be roughly described—*first*, the large, patriotic, legislating, banquet-enjoying species, impatient of long-drawn papers; and *second*, the smaller species with well studied papers, always sure of an appreciative audience to listen to them, always coming to their meetings with predigested discussion in their minds. The work from both species has its supporters and advocates, showing that no amount of argument will enable one to persuade the other to desist as long as the differences exist between the castes of American medical intellect.

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., " } Editors.

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* THE CAROLINAS. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* JOURNAL, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* THOMAS F. WOOD, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

The meeting of this body in Washington City on the 5th of the month has been so thoroughly advertised through the daily papers that little is left to be said of it except the impressions that are left to those who registered among its members and were participants or listeners in the sessions of the sections and the general meetings of the whole body.

The unfortunate disagreements that followed the early arrangements made for the Congress left their marks plainly in this gathering. The resignations of the gentlemen first assigned to prominent

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places in the sections, after the American Medical Association saw fit to supervise the work of the original Committee of Arrangements, meant that these physicians would not participate in the proceedings of the Congress. The fact is, the matter most to be regretted is the unkind feeling that has arisen between the two parties in the disagreement, and the jealousies that will and have naturally grown out of it. But these things belong to the past so far as we are concerned. The Congress has met and adjourned, and its work will stand now upon whatever merit it may have.

The predominant feature to us in our observations of the work in the sections was the earnest and determined way in which the profession from the Southwestern States declared themselves. They were ever ready for the fray, no matter who entered the lists, and doughty warriors they proved in many instances. If New York, Boston and Philadelphia saw fit to shake their skirts clear of the responsibility of the dismal failure that they prophesied would be the result of the meeting under the new order of arrangements, Chicago and her sister cities in the West and Southwest rushed in to fire up the breach and declare themselves equal to the task that their Committee had laid out for them.

The proceedings will be printed, for the chiel was amang them takin' notes, and they are already issuing in the great weeklies. "By their works ye shall know them."

The number of foreign delegates was comparatively small, though there were among those present men of distinguished merit, whose presence gave weight to the proceedings and pleasure to all who were members of the Congress. It is worthy of remark that the best work of the Congress was that offered by native physicians, and much of it will bear careful reading and elicit favorable criticism.

We hope now, that the Congress has adjourned, that the earnest and successful efforts of the Committee of Arrangements will be duly appreciated, for the labors were great, and they have every reason to look with pride and satisfaction upon their work.

The entertainments provided for the meeting were of a generous character, and the beautiful capital city was in itself a source of amusement and instruction, affording ample opportunities for the profitable employment of such moments as were not spent in the particular work of the Congress.

The profession owes much to Dr. Hamilton, the Secretary General, and Dr. Toner, at the head of the Committee of Arrangements, for the careful preparations that were made and for the eminently satisfactory performance of the duties their position placed upon them.

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INTERNATIONAL MEDICAL CONGRESS.

Dr. Pavy, of London, England, spoke on

DIABETES.

This disease has always been regarded as an inscrutable one. There are still many points open for earnest study and patient investigation. The nature of the disease is that of faulty disposal and assimilation of food elements. Foods taken into the body are classed as nitrogenous, fatty, and the carbohydrates. It is this latter class that especially concern us in diabetes. Starch-dextrine, lactic- and cane-sugar go to make up this group, and each has an equal action, when ingested, in causing the condition of diabetes.

Normally the carbohydrates are disposed of in the portal vein, from whence they are carried to the liver and there assimilated. Experiments in which defibrinated blood or oxygen have been injected into the portal vein have been followed by marked evidences of sugar in the urine. Similar results have been produced in animals by forced respiration, thereby supersaturating the blood with oxygen. Vaso-motor paralysis of the hepatic vessels, by causing an excess of blood, prevents the proper deoxygenation of the blood, and similarly causes sugar to be present in the urine. This condition allows the carbohydrates to be converted into sugar and to pass through into the general circulation.

In the celebrated experiments of Benard, in puncturing the floor of the fourth ventricle, he also noticed a vaso-motor paralysis of the hepatic vessels. It is noticeable that in those cases of vaso-motor paralysis of the chylopoëtic system where there is a red tongue the disease is more severe, undoubtedly owing to the fact that the paralysis has extended more generally throughout the circulatory system.

In health there is only a faint trace of sugar in the blood and the urine. The latter is always a reliable index as to the amount of sugar in the blood. In diabetes the sugar reaches the blood directly, without going through the process of assimilation in the liver. In health, sugar is stopped before it enters into the general circulation, but in diabetes it is found in the blood directly in proportion to the quantity of carbohydrates taken. Sometimes even in health there

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is sugar in considerable quantity in the urine, in cases where there has been taken very large quantities of the carbohydrates, showing that there is a normal limit to the assimilative power of the liver, which, if exceeded, will result in a diabetic condition. The liver is a fat- rather than a sugar-producing organ, converting animal starch into sugar and then into fat. The liver is different from other organs in that it has small arteries and large veins. The contents of the portal vein should be in a decidedly venous condition, otherwise we will get sugar into the general circulation.

Diabetes is of a neurotic origin, and it is well established that nervous conditions influence in a material manner the condition of of the patient.

In considering these cases the first thing to do is to test for sugar in the urine, and in order that we may fully appreciate the progress of the case this test should be a quantitative one.

In selecting urine for examination it is necessary to procure both an evening and a morning specimen. It frequently occurs that sugar is only present shortly after the taking into the body of carbohydrate foods. It is owing to the fact that specimens of urine are procured at different times and after different conditions of diet that physicians differ so often in the diagnosis of diabetes. Among the various tests for sugar probably the most accurate is the copper test, in the form of Fehling's solution. The great objection is that this solution will throw down a precipitate on boiling, which is very liable to mask the test. In order to obviate this he had had pellets made of the solid ingredients of this solution, in an anhydrous form, such as can be at any time dissolved in water for use.

When the patients come to us we should not ask them, but tell them, what they have been eating or drinking. This can be accurately done by the quantitative test. This is best and most easily accomplished by the decolorization test, which is done in the following way:

At the bottom of a long, graduated pipette is attached a tube running into a flask containing a given quantity of a solution of sulphate of copper, differing from Fehling's solution only in containing ammonia and potash instead of the latter alone (in order to prevent the precipitation of the oxide); at the upper part of the flask is placed an escape-tube. At the rubber tube through which the urine escapes into the flask is placed a compressor controlled by

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a screw, which regulates perfectly the flow of the urine. After the copper solution is brought to the boiling-point, by a flame placed underneath the flask, the urine is allowed to enter the flask, drop by drop, until the copper solution is exactly decolorized. By reading upon the graduated pipette the amount of the urine which has been necessary to decolorize the known quantity of copper solution, we can form a proportion by which an accurate estimate can be made of the contained sugar. By this means we can follow the course of the disease even more accurately than the clinician who, with his stethoscope, watches, from day to day, the progress or retrocession of pulmonary disease.

It is well to note, in passing, that in diabetes we sometimes find albumen in the urine, and this is often present just in proportion as the patient improves or gets worse. As test for albumen, which has no known fallacy, is that with citric acid and the ferrocyanide of sodium. The objections to the nitric-acid test are that it may precipitate either uric acid or the oleo-resins. In the above test, if a pellet of citric acid is dissolved in the urine and boiled, we may then get a precipitate of uric acid, but upon the addition of the ferrocyanide of sodium the solution invariably clears up unless albumen be present.

In considering the disease itself, we find it has different grades of intensity. The liver, in health, has not unlimited control in the assimilative power over the carbohydrates, and diabetes may be said to exist when that power is below the ordinary. When a person first comes to have diabetes, as we have stated, it is through faulty assimilation; it does occur, however, that, as the disease progresses, the sugar is formed upon the tissues themselves, as is proved by its constant presence when the patient is upon a strictly meat diet.

Age influences greatly the occurrence of the disease. Out of 1,360 cases tabulated, forty-five per cent. occurred between forty and sixty years of age. Age also affects prognosis; young subjects rarely recover, the disease ordinarily terminating in two years. In old people the prognosis is more favorable, many recovering. One reason, possibly, for the tendency of children to do badly is that they take unsatisfactory care of themselves, while elderly persons are oppositely inclined.

Diabetes sometimes commences in a very mild form, and may exist for a long time unrecognized. How do we know it is not

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recognized? It is said that bootblacks in hotels become expert in recognizing diabetics by the white stains on their shoes and clothing caused by stains from their urine.

Then, too, diabetes runs in families in a very marked manner. One of the most striking instances of this was in a family which came under my observation, where the grandmother. the mother and four out of her five children died of diabetes.

Recently he had found many cases beyond the middle period of life having pain in their limbs, which were formerly called neuralgia; they also have an irregular gait, somewhat ataxic. They sometimes feel as if they wanted to "gather themselves together," so that they may walk without giving their friends the impression that they have been taking too much. Again, they have the peculiar symptoms of pains in their extremities and "throughout the bones," which are much worse when they get warm in bed. This probably is, or analogous to, a peripheral neuritis.

In treating young subjects we must try merely to stay the disease; we cannot stop it. We take away the sugar, the patient temporarily improves and believes himself cured. He is borne up only by false hopes.

In young subjects it seems to have a progressive character, not unlike progressive muscular atrophy, or of locomotor ataxia.

For elderly patients we can do much. Appropriate diet is absolutely necessary. Sweets, pastry, puddings and bread must be interdicted, while meat, eggs, poultry, butter and cheese may be taken. In regard to milk, it must be remembered that it contains lactic sugar, and, therefore, also, cannot be taken.

In regard to bread, the gluten and almond breads, especially the latter, are preferable. Gluten bread may be considered of a good quality if containing only thirty-three per cent. of starch. He had found that many times patients paying a high price for their bread got an inferior quality, containing from sixty per cent. to eighty per cent. of starch. Almond is far preferable, containing fifty per cent. of fatty matter, and only seven per cent. of carbo-hydrates. It was necessary, therefore, to have the proper means with which to carry out the treatment successfully. The medicinal agents which he gave were opium, morphia and codeia. Whether due to the natural history of the disease he could not tell; but he thought they exerted a restraining influence over the disease.

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If the sugar disappears from the urine he commenced to give his patients two ounces of bread daily; if, after a few weeks or months, he still found no sugar, he gave them three ounces of bread, increasing in this manner until he gave them six ounces, with which quantity they must remain content.

If the bread causes the sugar to reappear, it must not be taken.

We have seen that if there is sugar in the urine, it must be proportionately so in the general circulation. An excess of sugar in the blood predisposes to disease. The patient is then "ripe for anything wrong."

Dr. Herrick, of Cleveland, O., asked whether Dr. Pavy considered the condition of the urine the objective point in the treatment, or did he aim his treatment directly to the abnormal condition in the portal and hepatic circulation.

Dr. Pavy said that he looked upon the lessening of sugar as an evidence that the assimilative power of the carbo-hydrate is improved. The urine is an index of sugar plus the power within.

Dr. Arnold, the President, asked whether Dr. Pavy would corroborate the statement that the Hebrew race are predisposed to diabetes.

Dr. Pavy replied that while it was true they were predisposed, it was also true that they were more amenable to treatment.

Dr. Traux, of New York, asked if Dr. Pavy had found that where acetic ether was present death followed quicker.

Dr. Pavy replied that he was not a believer in acetonæmia.—*Medical Record.*

A CONVENIENT FORMULA FOR THE TREATMENT OF DIABETES BY LITHIUM IN PILL FORM.—Vigier recommends the following as more convenient than Martineau's arsenical liquid containing lithium:

℞.—Lithii carbonat., gr. iss;
Sodii arseniat., gr. 1-25;
Ext. gentian, gr. ¼.
For each pill.

To be taken morning and night, and continued until sugar has disappeared from the urine.

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NOTES.

DR. ED. LINDSAY died in Greensborough 3d September, 1887.

A CASE OF HYDROPHOBIA, the incubation of which was 1 year, 7 months and 12 days, is reported in a Russian medical journal.

DR. RICHARD WHITEHEAD, of Salisbury, N. C., has been appointed Demonstrator of Anatomy in the Medical College of the University of Virginia.— *Watchman—Morning Star.*

WHEN vaginal pruritus is found in an elderly patient do not fail to examine the urine for sugar. Vain will be the use of antipruritics until the diet of the patient is regulated, and other treatment instituted.

NEWEST TREATMENT FOR WHOOPING-COUGH.—Resorcin and cocaine sprays—2 to 8 grains cocaine to the ounce of water; resorcin, 2 to 4 grains to the ounce of water, the cocaine spray being used every two hours, the resorcin every three hours.

DR. WM. A. BYRD.—The *Journal of the American Medical Association* announces the death of Dr. W. A. Byrd, of Quincy, Ill., from sunstroke. Dr. Byrd was a surgeon of great skill, and was well and favorably known by the profession in the South. His death is a sad blow to the profession.

ANTIPYRIN AND ANTIFEBRIN IN "NERVE STORMS."—Evidence is rapidly accumulating, says the *British Medical Journal*, that in antipyrin we have a remedy of real use in the treatment of various painful affections, especially those which are of the so-called "nervous character." Dr. John Ogilvy, Surgeon General, has found good results in cases of "bilious headache." Prof. Germain Seé finds it useful in facial neuralgia, migraine, headache, sciatica and neuritis. Dr. T. S. Robertson, of New York, gave the drug successfully in migraine, good results being noticed in from one-half to an hour. The dose is about 8 grains, given at intervals of an hour until three or four doses are given. Or a decided dose of 20 grains may be given, and repeat it in two hours if necessary. Cerebral anemia appears to be the main indication of either antipyrin or antifebrin.

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ATROPINE IN HEMOPTYSIS.—The hypodermic injection of *three milligrammes* (.464 grs.) of sulphate of atropine proved effectual in obstinate cases of hemoptysis when other remedies failed.

COCAINE INJECTION INTO THE BLADDER AS A PREPARATION FOR STONE OPERATION.—Kovacs washes out the bladder with salt and water first, then a four per cent. cocaine solution is injected. Five minutes after the cocaine injection about three ounces of water are injected.

DANGER OF ANTISEPTIC DRESSINGS TO THE MANUFACTURER.—Mr. C. Am Ende, the pioneer manufacturer of antiseptic dressings in this country, calls our attention, in a private letter, to the poisoning of workmen engaged in the manufacture of bichloride dressings. He mentions that one of his employeés had a well developed case of severe corrosive sublimate poisoning, from the handling of the goods or from their preparation, though, as he says, none of them throw off any dust. He has much concern for the health of his other employeés, and hopes the profession will return to the non-poisonous antiseptics for dressings. Mr. Am Ende makes the most reliable dressings, which include catgut ligatures, plain and sublimate gauze, iodoform gauze, sponges, and the most beautiful and perfect borated and absorbent cotton.

TO WHAT EXTENT CAN WE CLASSIFY VESICAL CALCULI FOR OPERATION, ETC.—This is the caption of a very well digested article by Dr. Vaeder Veer, a continuation of which is the leading article in the *Virginia Medical Monthly* for September. It is well worth careful reading. We venture to call the attention of the author to the fact that, making up his table of Supra-pubic lithotomies, he has omitted the cases of Dr. C. W. Dulles, of Philadelphia, in the *American Journal of Medical Sciences*, July, 1875, and April, 1878, and *New York Medical Journal*, September, 1878. Another contribution on this subject was made under the pseudonym of "North Carolina Physician" (NORTH CAROLINA MEDICAL JOURNAL, Vol. II., p. 313). The author, Dr. H. T. Bahnson, of Salem, will pardon our boldness in making known its authorship, but in so doing we but bring the cases properly before students, who are not warranted in gathering statistics from unsigned contributions.

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THE following physicians from North Carolina were registered as members of the International Medical Congress: Drs. J. M. Baker, Tarborough; S. W. Battle, Asheville; W. J. H. Bellamy, Wilmington; —— Best, Pitt county; A. G. Carr, Durham; W. T. Cheatham, Henderson; Charles Duffy, New Bern; J. W. Faison, Mt. Olive; G. W. Graham and —— Gibbon, Charlotte; J. M. Hays, Henderson; E. B. Haywood, Raleigh; J. A. Hodges, Fayetteville; J. W. Jones, Tarborough; W. P. Mallett, Chapel Hill; J. W. McNiel, Fayetteville; J. W. Moore, Mt. Pleasant; C. J. O'Hagan, Greenville; L. J. Picōt, Littleton; N. J. Pittman, Raleigh; G. G. Thomas, Wilmington; J. H. Tucker, Henderson; W. H. Wilson, Gastonia; R. S. Young, Concord. The North Carolina contingents took Dr. R. I. Hicks into its ranks. Dr. Hicks formerly belonged to us—but his removal to Warrenton, Virginia, has taken him away bodily—and we believe that in heart and soul he is still one of us.

IS IT GELSEMIUM OR GELSEMINUM?—We detect the pen of the polyglot scientist, Mr. Charles Rice, editor of the *American Druggist*, in a review of the origin of the name *Gelsemium*, in reply to a correspondent who wants to know which is the correct spelling, Gelsemium or Gelseminum. The writer gives decided preference for the latter. Mr. Rice brings out some interesting learning in connection with the name of our yellow jessamin. It was Catesby who, in 1741, established the generic name Gelseminum, separating the European genus Jasminum from the American genus, and adopting the old mediæval word for jessamin. And by the way, Catesby's "Natural History of Carolina" is, in this day of wonderful picture-making, a most creditable work considered artistically, although nearly 150 years old. The University of North Carolina is the fortunate possessor of two volumes of this very rare work. But to return to Gelsemium, Jussieu, in 1789, in his "Genera Plantarum," gave a strict and rigorous characterization of the American plant, adopting the genus name *gelsemium*, omitting the *n*. Pursh, Elliott and Darby followed Catesby's spelling, but Bentham and Hooker and Gray followed the spelling of Jussieu, and so does Chapman. "Since, therefore, every botanical authority of the present day use the spelling *Gelsemium*, and since a scientific term purposely introduced and once adopted should remain unaltered, irrespective of any etymological considerations, the above is the only way the word should be written."

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Twenty advertised cures for the opium habit have been examined by Dr. Davenport, State Analyst of Massachusetts. All but one contained opium; this one was called the "double chloride of gold," but contained no trace of gold."—*Exchange.*

Intubation of Larynx.—This is a very interesting pamphlet, containing papers by Francis Huber, M.D., Joseph O'Dwyer, M.D., W. P. Northrup, M.D., A. Caillé, M.D., Dillon Brown, M.D., Irwin W. Hance, M.D., and Prof. A. Jacobi, M.D., discussing the methods and results of intubation of the larynx as a substitute for tracheotomy, and discussing also the best plans of feeding patients during treatment. Dr. Jacobi concludes the discussion by paying a high tribute to Dr. O'Dwyer for the originality of his invention, and after admitting his previous opposition to the new surgical procedure as lately as in the third volume of Pepper's System of Medicine, he remarks that he was now, and had been, for sometime, convinced of the correctness of everything that he claimed for intubation. This collection of papers is a good statement of the present condition of intubation, and may be read with profit by any one desiring information. We presume it may be obtained from the publishers of the *Medical Record.*

Army Surgeons.—An editorial in the *British Medical Journal*, on the subject of Army Surgeons and Army Surgery, is a spirited presentation of the eminent services rendered by British surgeons in time of war. It relates many touching incidents—short paragraphs from the history of army medical service—which are more lasting memorials than "storied urn or animated bust." One noble example we quote: "Read of Dr. Landon upon Majuba Hill. Mortally wounded, with the agony of death closing in, in the midst of his own pain and weakness he heard a wounded soldier shrieking aloud in his sufferings, and creeping, forgetful of self, to where this man lay, gave him a morphine injection to relieve his distress, and giving it, died! Sir Philip Sidney did scarce as noble an act as this, for he only deprived himself of a comfort, but Landon increased his own sufferings and spent his remaining strength by his exertions. Of the like of this deed there are, indeed, few recorded in the annals of any age or country." Who will be the historian of the medical men in our late war?

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OBITUARY.

Edward Lindsay, M.D.

The 3d day of September, 1887, ended the earthly labors of the lamented Dr. Edward Lindsay.

He was born in Greensborough, N. C., on the 27th of January, 1849, and was, therefore, in his 38th year when the hand of death liberated his soul from its earthly tenement. He was a son of the late Jed. H. and Martha Lindsay, who was formerly a Miss Strange, of Kentucky. His literary education was acquired at the Universities of North Carolina and Virginia, at the latter of which he commenced the study of medicine, and graduated in this branch at the Washington University of Baltimore, on the 27th of February, 1871. He settled in Chapel Hill and married Miss Lizzie Kirkland, of that place, who, with four children, survives him. He entered there on the practice of his profession, but afterwards removed to St. Joseph, Mo., where he engaged in the drug business. After a short time, however, he returned to Greensborough, the place of his birth and early life, and began anew the general practice of medicine, in connection with the drug business, which was conducted under the firm name of Lindsay & Schenck, to the date of his death. During the last two years of his life he was Superintendent of Health for Guilford county.

Dr. Lindsay was a man of excellent nature as well as acquired abilities—a success in all his undertakings—a failure in none.

READING NOTICES.

A Reliable Liquid Pepsin.—Have used Lilly's Liquid Pepsin for the last ten years with remarkable success, and do highly recommend it to the profession. Thompkins E. Taggart, M.D.,
(Fairmount), Cincinnati, O.

G. M. Harrison, M.D., Auburn, Centre, Pa., writes:—"I have recently thoroughly tested your Lactated Food in cholera infantum, and find it the most satisfactory, in the results obtained, of all foods prescribed. In fact, the Food in my case acted as a specific. I cannot recommend it too highly."

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NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

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ORIGINAL COMMUNICATIONS.

COMPLETE OCCLUSION OF THE ŒSOPHAGUS BY A PIECE OF MEAT, IN A CASE OF STRICTURE, RELIEVED BY TRYPSIN.

(Reported by W. H. Bobbitt, M.D., Raleigh, N. C., and K. P. Battle, Jr., M.D., Surgeon for Diseases of the Eye, Ear, Throat and Nose to St. John's Hospital and that of the Leonard Medical School, Raleigh, N. C.)

The patient was a boy, three years of age. Eighteen months ago he drank some lye, and was troubled at times thereafter with choking, but always relieved himself without treatment. No physician had been consulted, and the site and calibre of the stricture was unknown. The last attack of this kind occurred about one year ago. Until July 30 he was able to eat anything he pleased without difficulty. On that day, while eating lean ham at 9 o'clock A. M., he suddenly choked and afterwards could swallow nothing, not even water. Dr. Bobbitt was called in the afternoon. Next

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morning the child was seen by Dr. Bobbitt and Dr. Battle in consultation. He was very thirsty and greedily attempted to drink water whenever it was offered him. He would take two or three mouthfuls and the act of swallowing would seem to be almost complete when the water would be returned, escaping through mouth and nose. This was generally followed by attempts at vomiting, which unfortunately could not dislodge the meat. He made no complaint of pain, but on being questioned on that point he would put his hand to the region of the larynx and at times to the stomach. There was no difficulty of breathing. On making an examination there was no obstruction could be felt by the finger. No œsophageal bougies being at hand, a soft rubber catheter, No. 12 E, was used and was stopped at a point several inches down the œsophagus. Smaller sizes were tried, but none would go further than the first. Mackenzie's œsophageal forceps was then introduced without difficulty to the obstruction. By pressing forward its point it could be felt in the depression just above the manubrium. Small shreds of ham fibre were brought up on closing and withdrawing the forceps, but the stricture could not be cleared by repeated efforts. As the patient was becoming exhausted, and we did not have at hand a wire for stiffening the catheters, further attempts were postponed to the afternoon. The suffering of the little patient for want of water, when next seen, was distressing. He was continually asking for it, and on trying to drink the result was always as before. He was naturally weaker than in the morning. A curved stiff wire was now inserted into a soft catheter, and endeavors were made to force the morsel past the stricture into the stomach without success. The same result followed the further use of the forceps. Apomorphia hypodermically was considered and put aside from fear of its depressing effect in the patient's weakened condition, and because, the stomach having been empty for so many hours, efforts at vomiting were likely to prove as abortive as before.

Acting upon a hint furnished by the report of a case, quoted by Mackenzie,* in which pepsin was thought te have digested a "large soft substance" that had become impacted in the gullet, we had previous to this visit provided ourselves with an ounce of the trypsin mixture of Fairchild Brothers & Foster:

*Diseases of the Throat and Nose. Vol. II,, p. 195.

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℞.—Trypsin (Fairchild)..... gr. xxx
Sod. bicarb..... gr. x
Aq. destil..... ʒi
M.

Having witnessed the digestive power of this mixture upon fibrin, it seemed reasonable to hope that it would digest the meat and relieve the obstruction. We determined to make the attempt. On account of regurgitation the difficulty would be to keep enough of the fluid in contact with the meat a sufficient length of time. To make sure that it should reach the desired place, a small quantity of it was injected by means of an ear syringe through rubber tube previously introduced down to the stricture. To prevent its immediate regurgitation this was held in place more than ten minutes, the child of course protesting as vigorously as the presence of the tube and a gag in his mouth would admit. There being a limit to his endurance, the tube was not held in place longer, as would have been desirable. After the child had rested the stiffened catheter was again tried, but could not be pushed into the stomach with the amount of force that it was thought advisable to use. A nutritive enema was ordered and three-fourths of a teaspoonful of the trypsin mixture was directed to be given every hour, with the expectation that a small proportion of it at least would remain in contact with the meat, and the patient was left for the night.

At 9 o'clock the next morning, when the child attempted to drink water, he swallowed without difficulty, just forty-eight hours after the impaction of the ham. A short time afterwards he vomited, and in the water ejected was found a number of fibres of the meat. It seems justifiable to conclude that the morsel had been so digested and softened by the trypsin that it was dislodged by the swallowing of the water.

THE CHINESE AND COLD BATHS.—In the northern parts of China it is the custom to use only warm water for bathing purposes, and an attempt, which was made not long ago, to induce the people to use cold water, for the face, at least, on the ground that it was more conducive to health, was strenuously opposed by the people, who are accustomed to look on cold water as a medicinal agent, and to be used only in cases of great necessity.—*Medical Record.*

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INTERNATIONAL MEDICAL CONGRESS.

Dr. Charles T. Parkes, of Chicago, presented a paper on

GUNSHOT WOUNDS OF THE ABDOMEN.

No subject has interested surgeons, he said, more than the treatment of penetrating wounds of the abdomen. In 1885 the whole number of recorded cases of operation for gunshot wounds of the intestine was but six. Since 1885 thirty-eight cases have been recorded with eleven recoveries, and surgical interference in appropriate cases is now the generally accepted view. The condition and appearance of the internal wound give some indication as to the presence or absence of penetration. A single wound of the abdomen affords a hope that the penetration has not taken place, but it is only a hope. Even the presence of a wound of entrance and exit does not positively indicate injury of the viscera. If there is a tract of tenderness continuous from the wound of entrance some distance, it is fair to infer that penetration does not exist. A large bullet-hole indicates penetration. When in doubt the wound of entrance should be enlarged. In this way the presence or absence of penetration can be determined, and with the usual precautions this does not increase the dangers.

In diagnosis much value cannot be attached to the subjective sensations. The unusually rapid appearance of tympanites in a region ordinarily dull, would indicate escape of gas into the abdominal cavity. Localized dullness in the region of the wound or in the dependent portion of the abdomen would indicate hemorrhage. The presence of blood in the urine indicates wound of the kidney, bladder or ureter. Shock cannot be relied upon, but when present the probability of such injury is very great. The rare phenemenon of feces in the wound is a positive sign of perforation. The presence of persistent nausea and vomiting also points to injury of the viscera. The absence of pulsation in one femoral vein indicates injury of the iliac vessel. Two cases were then reported.

In the treatment of gunshot injuries of the abdomen, incision in the median line is better in the majority of cases. There are exceptional cases in which enlargement of the original wound answers the purpose. The continuous suture answers every purpose, and as it can be inserted more rapidly than the Lembert, it is preferable.

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Silk is preferable to catgut in making the sutures. Where resection is required, two methods of procedure may be adopted. In cases where the mesenteric border cannot be saved, section should be made through the healthy bowel, and a triangular portion of the mesentery also removed. The two portions of the bowel are then brought together and secured with sutures, the first suture being introduced at the junction of the mesentery and intestine. In no case had he found it necessary to use more than one row of sutures. All raw surfaces should be covered with peritoneum. The second method is applicable in cases where the mesenteric border is not injured. In these cases the section does not involve the mesenteric border of the intestine. The injured portion is alone removed and the edges of the healthy bowel brought together with the continuous suture. Where the omentum is injured the hemorrhage is often severe, requiring the removal of a large portion of the structure. All slits and lacerations in the omentum should be closed by sutures. In perforation of the stomach there is no difficulty in closing the wound after it is found. Where there is no complication wounds of the stomach usually heal satisfactorily. In gunshot wounds of the liver the surfaces should be brought together by deep sutures. The same procedure may be employed in the case of the spleen, but where this organ is badly lacerated extirpation is indicated. Perforating wounds of the kidney call for extirpation. Perforation of the liver, spleen or kidneys with a similar injury of the small intestine greatly increases the gravity of the case, and such cases will usually end fatally. Wounds of the bladder call for suture.

Special stress was laid on the necessity of seeking out all wounded blood-vessels, thus preventing the danger of primary or secondary hemorrhage. There should be a careful search made for all wounds of the intestine, the bowel being examined in a systematic manner. Tight sutures should be avoided, for these will lead to sloughing and extravasation. If the peritoneal surfaces are laid in contact and kept there for a few hours, adhesions will take place.

Dr. N. Senn, of Milwaukee, then read

AN EXPERIMENTAL CONTRIBUTION TO INTESTINAL SURGERY, WITH SPECIAL REFERENCE TO THE TREATMENT OF INTESTINAL OBSTRUCTION.

The indications in the treatment of intestinal obstruction are to

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remove or render harmless the cause of the obstruction, and the immediate restoration of the continuity of the intestinal canal. Where the cause cannot be removed, it is to be rendered harmless by forming an anastomosis between the portion of bowel below and that above. One hundred and fifty operations were performed on animals. The principal forms of intestinal obstruction were produced artificially, and the attempt was made to devise some new operation whereby the obstruction may be relieved when the removal of the cause is not possible. The length of time required in the performance of most of the present operations is their great contraindication. By simplifying the method of operation, the author had been able to lessen the time required. To prevent extravasation during the progress of the operation, the author had employed a narrow rubber band tied around the intestine with sufficient force to occlude it. He had never observed any injurious effects following the use of elastic compression.

The study was first directed to simple *stenosis*, which was produced by cutting out a semilunar portion of the bowel. (*a*) Traumatic stenosis from this cause becomes a source of danger from obstruction or perforation where the lumen of the bowel is reduced more than one-half. Where excision of the bowel is required for injury not more than one-half should be taken away. If more is required, circular excision should be resorted to. Longitudinal suturing of wounds on the mesenteric side of the intestine should never be practised, as such a procedure is invariably followed by gangrene and perforation, through interference with the blood supply of the portion of bowel corresponding to the mesenteric defect. (*b*) In circular constriction of the bowel, the immediate cause of gangrene of a loop of intestine is obstruction to the venous circulation, and takes place first at a point most remote from the cause of the obstruction.

Flexion (*a*) produced by partial enterectomy and transverse suturing of the wound. On the convex surface of the bowel a defect an inch in width can be closed by transverse suturing without causing obstruction by flexion. In such cases the stenosis is subsequently corrected by a compensating bulging of the mesenteric side of the bowel. Closing a wound of such dimensions on the mesenteric side of the bowel by transverse suture, may give rise to intestinal obstruction by flexion, and to gangrene and perforation

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by seriously impairing the blood supply to, and venous return from, the portion of bowel corresponding with the mesenteric defect. (*b*) Flexion caused by inflammatory and other extrinsic causes, gives rise to intestinal obstruction only in case the functional capacity of the flexed portion of the bowel has been diminished or suspended by the causes which have produced the flexion, or by subsequent causes independently of the flexion.

Volvulus, as in flexion, gives rise to symptoms of obstruction when the causes which have given rise to a rotation upon its axis of a loop of bowel, have at the same time produced an impairment or suspension of peristalsis in the portion of bowel which constitutes the volvulus, or when a diminution or suspension of peristalsis follows in consequence of the rotation.

Invagination.—Accumulation of intestinal contents above the seat of invagination, is one of the most important factors in preventing spontaneous disinvagination and in inducing gangrene of the intussuscipiens. Spontaneous reduction is not more frequent in ascending than in descending invagination. The immediate cause of gangrene is obstruction to the return of venous blood by constriction at the neck of the intussuscipiens. Ileo-cæcal invagination, when recent, can frequently be reduced by distentions of the colon and rectum with water, but this method of reduction must be practised with great care and gentleness, as over-distention of the colon and rectum is productive of multiple-longitudinal lacerations of the peritoneal coat, an accident which is followed by the gravest consequences. The competency of the ileo-cæcal valve can only be overcome by over-distention of the cæcum, and is effected by a mechanical separation of the margins of the valve, consequently it is imprudent to attempt treatment of intestinal obstruction beyond the ileo-cæcal valve by injections per rectum.

In a study of the effects of *enterectomy*, it was found that in dogs resection of more than six feet of the small intestine was uniformly fatal, the cause usually being the immediate effects of the trauma. Resection of more than four feet is incompatible with normal digestion, absorption and nutrition, and often results in death from marasmus. In cases of extensive intestinal resection, the remaining portion of the intestinal tract undergoes compensatory hypertrophy.

It was also found that *physiological exclusion* of an extensive

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portion of the intestinal tract, does not impair digestion, absorption and nutrition as seriously as the removal of a similar portion by resection. Fecal accumulation does not take place in the excluded portion of the intestinal canal, which undergoes atrophy.

Objection was made to the various forms of suture used in *circular enterorrhaphy* for three reasons: first, time required for their insertion; second, the danger of puncturing the bowel; and third, the interference with nutrition which they cause. The author recommends a modification of Jobert's invagination suture by lining the intussusceptum with a thin flexible rubber ring, and the substitution of catgut for silk sutures is preferable to Czerny-Lembert sutures.

The line of suturing, or neck of intussuscipiens should be covered by a flap, or graft of omentum in all cases of circular resection, as this procedure furnishes an additional protection against perforation. In circular enterorrhaphy continuity of the peritoneal surface should be secured where the mesentery is detached by uniting the peritoneum with a fine catgut suture before the bowel is united, as this modification of the ordinary method furnishes better security against perforation on the mesenteric side.

Intestinal Anastomosis.—The formation of a fistulous communication between the bowel above and below the seat of obstruction should take the place of resection and circular enterorrhaphy in all cases where it is impossible, or impracticable to remove the cause of obstruction, or where the pathological conditions which have given rise to the obstruction do not constitute an intrinsic source of danger. Gastro-enterostomy and jejuno-ileostomy should always be made by approximation with partially or completely decalcified perforated bone plates.

In making an intestinal anastomosis for obstructions in the cæcum, or colon, the communication above and below the seat of obstruction can be established by apposition with decalcified perforated bone plates, or by lateral implantation of the ileum into the colon or rectum. An ileo-colostomy, or ileo-rectostomy by approximation with decalcified perforated bone plates or lateral implantation, should be done in all cases of irreducible ileo-cæcal invaginations, where the local signs do not indicate the existence or occurrence of gangrene and perforation. In all cases of threatened gangrene and perforation the invaginated portion should be excised, both ends of the bowel closed, and the continuity of the intestinal

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canal restored by making an ileo-colostomy by approximation with perforated decalcified bone plates, or by lateral implantation. The restoration of the continuity of the intestinal canal by perforated approximation plates or lateral implantation, should be resorted to in all cases where circular enterorrhaphy is impossible, on account of the difference in the size of the lumina of the two ends of the bowel.

In cases of multiple gunshot wounds of the intestines involving the lateral or convex side of the bowel, the formation of intestinal anastomosis by perforated decalcified bone plates should be preferred to suturing, as this procedure is equally, if not more safe, and requires less time.

Adhesion Experiments.—Definitive healing of an intestinal wound is only completed after the formation of a network of new vessels in the product of tissue proliferation from the approximated serous surfaces. Under favorable circumstances, quite firm adhesions are formed between the peritoneal surfaces within six to twelve hours, which effectually resist the pressure from within outward. Scarification of the peritoneum at the seat of approximation hastens the formation of adhesions and the definitive healing of intestinal wounds. Omental grafts, from one to two inches in width, and sufficiently long to encircle the bowel completely, retain their vitality, become firmly adherent in from twelve to eighteen hours, and are freely supplied with blood-vessels in from twenty-four to forty-eight hours. Omental transplantation, or omental grafting, should be done in every circular resection, or suturing of large intestinal wounds, as this procedure favors the healing of the visceral wound, and furnishes an additional protection against perforation.

Dr. Nathan Bozeman, of New York, read a paper upon

THE GRADUAL PREPARATORY TREATMENT OF THE COMPLICATIONS OF URINARY AND FECAL FISTULAS IN WOMEN,

including a special consideration of the treatment of pyelitis by a new method, and the prevention of the evils of incontinence of urine by a new system of drainage. He referred at length to his well-known method of preparatory treatment for operation upon fistulas of various kinds and various degrees of severity, exhibiting and explaining the appliances which he is in the habit of using for producing dilatation and removing adhesive bands. The great

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difficulty has been hitherto so to control the escape of urine that its annoying and injurious effects could be obviated He believed that that question was now solved by the use of a combined dilator and urinal, consisting in a hollow metallic receptacle, perforated with a few holes upon its upper surface, and provided with a long rubber tube which projects from the vagina. This instrument may be considered as supplemental to, or developed from, the hard-rubber vaginal dilators and the soft-sponge bag dilators which he has been using for many years. This method of treatment has been recently extended by him to certain cases in which, in addition to an urethro-vaginal fistula, pyelitis had also developed. Several ingeniously constructed probes and catheters were shown, by means of which he had been able to explore the ureter even to the pelvis of the kidney, to complete a diagnosis of pyelitis, and, by irrigation of the diseased organ, to bring about great improvement in the patient's condition. The operative procedure for accomplishing this end he has termed kolpo-uretero-cystotomy. He summarized his views as follows:

1. That the importance of the complications of fistula in the female has not been sufficiently appreciated.

2. Kolpo-kleisis is an unjustifiable operation, and leads to cystitis, pyelitis, etc.

3. The combination of drainage with dilatation as here expounded is believed to be productive of most useful results.

4. Some form of drainage is suitable for every case in which a vesico-vaginal fistula exists.

5. For such cases drainage will prove a means of great relief.

6. It is believed that this method of operation will prove of great service in the treatment of pyelitis and some other renal diseases.

Dr. Graily Hewitt, of London, in opening the discussion, made a graceful allusion to the pleasure he had experienced in being in America at this time, and generously gave full credit to American gynecologists for the work which they had done. He considered that Dr. Bozeman's paper marked a distinct advance in the treatment of urinary fistulas; and the suggested operation for pyelitis was directly in the line of conservative surgery, and an improvement upon nephrotomy or nephrectomy.

Dr. Addinell Hewson, of Philadelphia, referred to his satisfactory experience in the use of the author's method of dilatation in the preparatory treatment of fistulas. He had also derived great

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advantage from the injection of a current of carbonic acid gas highly charged with sulphuretted hydrogen (exactly the same treatment that is followed in Bergeon's method of treating pulmonary phthisis *per rectum*) into the vagina and bladder. The treatment was usually continued for twenty minutes at a time, and satisfactory dilatation resulted.

Dr. Wathen, of Louisville, read a paper on

RAPID DILATATION OF THE CERVIX,

stating at the outset his predilection in favor of this operation by means of steel dilators, especially in the treatment of dysmenorrhœa and sterility. Tents of all kinds were believed to be more or less unsafe, and a two-bladed instrument was preferred to bougies or any other form of instrument for this purpose. The operation should always be done with the greatest regard to antisepsis, and in case the dilatation is to exceed three-quarters of an inch, general anæsthesia to a moderate degree should be first produced. The form of dilator which he used had parallel blades which were thickened at the tips, and enabled one to dilate as thoroughly at the os internum as at the os externum, the blades not giving or springing, and thus producing unequal dilatation, as is too apt to be the case with such instruments as Goodell's, for example. He considered that this method of operation could be substituted for other means in almost every case in which dilatation is indicated.

Dr. A. Martin, of Berlin, in opening the discussion, sketched the development of the idea of dilatation since it was first propounded by Simpson, forty years ago, and alluded to the great changes which had occurred to the operation during that period. He quite approved of the author's idea of making the dilatation ample at the os internum, if it were done at all. For himself, however, he did not see the necessity for doing the operation frequently. The womb could be explored after slight dilatation, perhaps with the finger, and the curette could then be used if the question were one of diagnosis as to the character of the endometrium. He sometimes had occasion to divide the cervix with a knife, after which the interior of the organ could be explored, and the wound then closed as in the ordinary Emmet operation.

Dr. Weeks, of Portland, Me., thought the operation contraindicated in cases in which there was faulty condition of the ovarie-

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and tubes. It was not an operation which was devoid of danger. He had lost a patient who was seized with acute peritonitis on the fourth day after a second operation for dysmenorrhœa.

Dr. Reed, of Ohio, deprecated the general advocacy of this method of treatment.

Dr. Goelet, of New York, thought the great end to be attained was to produce dilatation to a certain degree, and then retain it by the use of a stem pessary for a sufficient length of time.

Dr. Trenholme, of Montreal, laid stress upon the statement that those cases were not suitable for operation in which there was either uterine congestion or any disease of the tubes or ovaries. The patient should be examined just after menstruation is ended, and if any of these conditions are found no operation should be done. After the operation he approved of the use of a curved stem.

Dr. Glisan, of Portland, Oregon, had always obtained satisfactory results from the operation, and without especial attention to antisepsis.

Dr. Reeves Jackson, of Chicago, deplored the frequency with which the operation is done. He thought it useless except for purposes of exploration.

Dr. Nott, of Texas, believed that the field for the proper performance of the operation was a limited one.

Dr. Burns, of Allegheny, Pa., preferred to dilate the uterus, in proper cases, with hard rubber stems, leaving them in for several days and securing proper drainage.

Dr. Balls-Headley, of Melbourne, Australia, still found Sims' operation of posterior section satisfactory in cases of stenosis attended with dyspnœa. He could not understand the great enthusiasm in America upon the subject of rapid dilatation.

Dr. Hoff, of Ohio, obtained satisfactory dilatation with tents made of the pith of the cornstalk and wrapped with absorbent cotton.

Dr. McBurney, of Detroit, found as the result of a great many measurements upon the cadaver, that dilatation was anatomically unnecessary in most cases, and believed that he accomplished the same result, namely, the relief of congestion, by the use of suitable vaginal applications.

Dr. Law, of England, still followed Sims' plan of cutting the cervix from the os internum to the os externum, keeping the

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wound open by means of a piece of lint laid within it, in those cases which are ordinarily treated by dilatation. During gestation, if it be desired to dilate the cervix, he uses an aseptic sponge tent.

Dr. Asdale, of Pittsburg, had never seen any bad results from the operation. He preferred steel dilators to tents. He had often seen sterility relieved by the operation.

Dr. Satterlee, of Kentucky, had never had occasion to perform the operation, believing that the same results could be obtained by vaginal applications of hot water.

Dr. Wathen, in concluding, stated that he did not hesitate to perform the operation in his office, in suitable cases. He did not accept Emmet's dictum, that there was no such thing as congestive dysmenorrhœa. If Emmet did not believe in the conditions for which the operation was required, he could not consistently do it, hence his opposition to it. He would do the operation only in cases in which equally good results could not be obtained by milder means.

Dr. T. More-Madden, of Dublin, forwarded a paper entitled

ON THE CAUSES AND TREATMENT OF BARRENNESS,

which was read by the Secretary.

It presented, in tabular form, a statement of the causes of sterility in five hundred and twenty-eight of the cases of infecundity occurring in married women, within the child-bearing period of life, that had come under his observation. The cases may be roughly divided into four classes, viz: 1st. Those in which barrenness was occasioned by sexual impotency or some physical impediment in the passages from the vulvar orifice to the ovaria. 2d. Cases of true sterility, or conceptive incapacity from deficiency congenital or acquired, structural disease, arrested developments, supra-involution, etc., of the uterus or from analogous morbid conditions of its appendages. 3d. Cases of barrenness from constitutional causes. 4th. Cases in which the causes of infecundity were apparently moral rather than physical, such as sexual incongruity, etc.

The most frequent of these causes of sterility is stenosis of the cervical canal. And, as he believes that the operative treatment of such cases, simple as it is deemed by some, requires more consideration than it generally receives, and frequently proves worse than useless from the disregard of certain details and precautions which he considers essential, he ventured to recommend the adoption of a method of

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procedure and the use of instruments which he had found advantageous in the curative treatment of stenosis in three hundred an eighty cases of obstructive dysmenorrhœa and sterility traceable to this cause.

The essential features of the method of treatment now referred to are the separation by cutting and simultaneous forcible expansion of the affected parts, followed by dilatation during the period of cicatrization, so as to prevent their subsequent contraction, and thus to secure the permanent patency of the previously occluded passage. To obtain this result he employs three instruments, viz: a special form of uterine director, which can, generally speaking, be introduced into any cervical canal, however narrow, and along which a serrated, triangular-guarded knife is made to travel up through the os internum; and, thirdly, a uterine dilator of great power, by which any required degree of cervical expansion may be effectually secured and accurately gauged.

The influence of uterine flexions in the prevention of pregnancy and the treatment he adopts in cases of sterility dependent thereon were described. He then dwelt on the subject of conceptive incapacity from morbid conditions of the Fallopian tubes, as he regards stenosis, as well as occlusion of these ducts by vaginitis and its results, such as hydro- and pyosalpinx, as far more common causes of sterility than is generally recognized. Moreover, he also holds that such tubal diseases may, in many instances, be efficiently dealt with without resort to the serious operative procedures, i. e., the removal of the uterine appendages, which, by some surgeons, are considered invariably necessary, and are by them so freely employed in such cases. Therefore he referred at some length to those less heroic alternative measures, such as aspiration and catheterization of the Fallopian tubes, the feasibility and the successful results of which, in appropriate cases of this kind, he has demonstrated clinically.

Dr. Gordon, of Portland, Me., believed that sterility was not often due to stenosis of the canal. Other important causes were vaginismus, a diseased uterine mucous membrane, which was usually due primarily to a displacement of the uterus, and disease of the tubes and ovaries.

Dr. Reed, of Ohio, thought that Hodge, as well as Graily Hewitt,

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deserved great credit for suggesting the treatment of these disorders by mechanical supports.

Dr. Graily Hewitt modestly admitted that he but took up Hodge's suggestion and applied it to anterior displacements, as Hodge had to posterior ones. Besides dilatation as a means for relieving sterility and dysmenorrhœa, the uterine canal should also be straightened, and both ends were often accomplished by the same means.

Dr. Smith, of Montreal, suggested that disease of the testicles must not be overlooked in the treatment of sterility.

Dr. Nelson, of Chicago, observed that the uterus must not only have no gross lesions, but its mucous membrane must also be susceptible of normal congestion in order to conception. Abuse of coitus was also believed to be a potent cause of sterility.—*Medical News.*

ON THE VACCINE OF YELLOW FEVER.

By Dr. Domingos Freire, Professor of Organic and Biological Chemistry in the Medical Faculty of Rio Janeiro.

In 1880 I announced that yellow fever was due to the presence of an extremely minute organism, found in the blood and deeper tissues, and also in the liquids of the secretions, which caused, by its evolution, disorders often fatal. Since that time I have continued my investigations with the view of proving the transmissibility of the microbe, and also that I might transform it into a vaccine by attenuation.

I have published papers on these different subjects, and, also, a report entitled, "Doctrine microbienne de la Fièvre jaune et les Inoculations Preventives," in which I have condensed all my ideas as to the pathogeny and prophylaxis of yellow fever. Two of these papers were made with the collaboration of Messieurs Paul Gibier and Ch. Rebourgeon, both distinguished pupils of the eminent scientist Pasteur, who were good enough to associate themselves with me during the present year while I was in Paris. Recently, at Rio Janeiro, I have continued the same investigations with Dr.

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Sternberg, who was sent by the United States Government to learn the result of my work. I now only fulfil a duty in expressing my gratitude for the interest and unflagging zeal shown by this learned physician, as well as for the efficient aid which he has given me.

The theory which I advanced as to the nature and prophylaxis of yellow fever, is the first of a long series of experiments assiduously pursued for a period of seven years. I hope that this will justify my assured confidence in the facts which I have observed, not only with reference to the etiology and pathogeny of the disease, but also with regard to the practice of preventive inoculations proposed by me.

My present communication I will divide into several parts, so as methodically to embrace the somewhat miscellaneous remarks which I have to offer.

I. *Natural history of the amarillus microbe. Its classification, evolution and cultivation.* I have rejected the kingdom of the protista in attempting to classify this microbe, preferring to place it among the algæ, on the authority of scientists like Robin and Littré, Germain, St. Pierre, and others.

In 1880, when I discovered the amarillus microbe, I named it the cryptococcus xanthogenicus, because it seemed to me to have the general properties which characterize the genus cryptococcus. Recently the genus micrococcus has been created to designate the cellular or ovoid microbes, which are the cause of many infectious and contagious diseases. Many botanists, as I am informed by Dr. Pizarro, the distinguished professor of botany and zoölogy in the faculty of medicine of Rio Janeiro, consider this genus micrococcus the same as cryptococcus, the difference consisting merely in the method of reproduction, in the latter it being by spores, while the micrococci reproduce by budding.

The amarillus microbe is found in a monocellular ferm, commencing as a round point, almost imperceptible even with a magnifying power of 700 diameters, the points increasing little by little, strongly refracting the light and soon showing dark zones when the light is reflected on them at certain angles. These little cells are circular (spherical), surrounded by a grayish or black border, and contain in their interior masses of protoplasm. Reproduction, as I have many times seen, is effected, as it seems to me, by the rupture of the enveloping membrane.

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The laceration of each cell may occur at a single point simulating a budding, but almost always the enveloping membrane breaks irregularly at several points. On the flaps resulting from the laceration there are seen colored viscous masses to which the germ cells adhere.

These masses attaching themselves to the débris of the destroyed cells are often arranged in an almost symmetrical manner, sometimes in the form of a pear, of a pine cone, or of a pineapple, sometimes like long and more or less flexuous chaplets. The microörganisms measure from one to one and a half micro-millimetres.

At the time of proliferation there escape from each adult cell two different pigments, one yellow, which infiltrates all the tissues and produces the icteric color which gives the disease its name; the other black, insoluble, destined to be carried into the circulatory current and to produce either capillary obstructions or blood stasis in the parenchyma of organs. The anuria is occasioned, at least in great measure, as the microscope shows, by the accumulation of microbes and their débris within the urinary canaliculi, exciting there, by their presence, colloid degeneration which transforms each uriniferous tube into a solid cord, and thus prevents the renal infiltration.

The black color of the vomited matters is due to this pigment. This seemed strange at first, but since the publication of my earliest investigations it has been found that there exists in nature a great number of microbes which have been called *chromogenic*, and have the property of manufacturing pigments of different sorts, the coloring being sometimes very striking. In support of this I will cite the dark blue pigment made by the bacillus cyanogenus, another beautiful reddish-purple color given by the micrococcus prodigiosus and the micrococcus indicus. Besides, the presence of these pigments has been confirmed by many physicians, among whom I will cite Drs. Rebourgeon, Issartier, and Prof. Artigalas, of Bordeaux.

Prof. Cornil, in his *Traité sur les Bacteries*, has reproached me for having shown, in the illustrations of my book, *Doctrine microbienne de la fièvre jaune*, masses of pigment, "for," says he, "these pigments are accidental corpuscles, and not bacteria." I know very well that these are accidental corpuscles, but it should not be forgotten that such corpuscles are correlated with the life of the amarillus microbe. Convinced that the observer has no right to correct

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nature, and repress what she clearly shows, I thought it my duty to place in my illustrations the pigments met with in cultures, especially as these same pigments play a very important part in the pathogeny of the disease, the two phenomena, icterus and black vomit, being the symptomatic expression of their presence in the organism of the patient.

Prof. Cornil himself has not been indifferent to the great interest which may attach to these pigmentary matters, for he mentions them several times in his treatise already cited, and has therefore repeatedly verified the pigments which I showed in my illustrations. I am happy to say that he has also confirmed the presence of the amarillus microbe in organs sent from Brazil. When I was in Paris about four months ago, I had the pleasure of receiving a visit from that illustrious scientist in the Laboratory of Comparative Pathology of the Museum of Natural History, where I was carrying out my investigations together with Drs. Gibier and Rebourgeon. We had an opportunity of showing him liquid and solid cultures made after the methods of Pasteur and Koch, and were able to satisfy him that coloration was invariably associated with microbes which, in his treatise, he reproached me with not having shown. On this occasion he was able to compare the microbe in the fresh condition, which he had not before seen, and the dead microbe stained with the hydrochlorate of rosaniline.

I have made perfectly successful cultures of the xanthogenic microbe in beef broth, milk and gelatine solutions. I prefer gelatine solutions made, not with distilled water, but with ordinary water, because the latter contains different mineral salts, and even some organic matter useful to the microbe. All the details with reference to my method of carrying on cultures are given in the first part (Chapter III.) of my report on the *Microbian Doctrine of Yellow Fever and Preventive Inoculations*, published in Rio Janeiro in 1885.

Besides Pasteur's method of cultivating microbes, I also used with my microbe Koch's method of solid cultures. Experiment has showed me that the amarillus microbe is easily stained, much more easily than many others, by aniline colors, such as the hydrochlorate of rosaniline, methyl-violet and Bismarck-brown. In a brief paper presented a short time ago to the Académie des Sciences, we pointed this out, and Drs. Gibier and Rebourgeon showed colonies of the

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xanthogenic microbe stained a violet color and perfectly visible by means of a Verick microscope, eye-piece No. 3 objective, with homogeneous immersion.

We have, besides, succeeded in cultivating the same microörganism by means of the method of Koch. Placed in tubes containing gelatine which has been previously perforated by a sterilized platinum wire and charged with a little drop of culture fluid, the microörganism, kept at a temperature of from 15° to 25°, forms colonies which take the form of a nail, the head being on the surface and the point buried below in the gelatine. The gelatine liquefies little by little in an irregular manner, and the liquefaction always takes place at the superficial strata, which indicates that the microbe is aërobic.

The amarillus microbe has the property of elaborating products belonging to the class of ptomaines (leucomaines of Gautier) at the expense of the albuminoid and other matters on which it feeds. These ptomaines are very poisonous. I have made numerous experiments with them on dogs and frogs, experiments which show that these alkaloids have a remarkable influence on the sympathetic and pneumogastric nerves. Many symptoms of yellow fever will thus be plausibly explained by the profound disorders which these poisons occasion in the cardiac apparatus and the vasomotor nerves. In the cultures themselves these ptomaines are formed. Gelatine having a neutral reaction becomes markedly alkaline after the microbe has been in it a few days, and by well-known methods we can extract from these cultures ptomaines similar to those found within the body in cases of yellow fever.

II. *Inoculability of the amarillus microbe. Its attenuation.* I have made a great number of inoculation experiments upon animals in order to prove the transmissibility of the disease. I have remarked that not only do inoculations made directly with blood and with violent cultures kill rabbits and guinea-pigs in from two to ten days, but that the same result occurs when these animals are kept in an atmosphere more or less saturated with microbes. Many animals died simply from breathing the air of the laboratory where I made my experiments and autopsies. Their organs showed many specific microbes. I have placed the inoculability of the microbe beyond doubt by injections, both hypodermatic, intravenous and intravisceral. I have made many series of experiments which

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am happy to announce have recently been fully confirmed by Dr. Rangé, physician of the first-class in the French Navy at the Salut Islands, French Guinea. The account of these experiments was published in the *Archives de Médecine Navale* last year.

The transmission of yellow fever from individual to individual by blood which was in the first place virulent, and which loses none of its virulence by passing through different organisms, shows clearly that the agent which produces the disease is not dead matter, but living, and susceptible of reproduction by successive transmissions. This agent can be nothing else than the only abnormal element of definite form constantly and invariably associated with undoubted yellow fever cases, that is to say, the micrococcus xanthogenicus. These direct proofs having put beyoud question the parasitic and contagious nature of yellow fever, I applied myself to the study of the attenuation of the microbe so as to change it into a product which might be used for vaccination.

We know that yellow fever, except in very rare cases, attacks the same individual but once, a characteristic found in almost all transmissible diseases of a virulent nature. If we succeed, however, in attenuating the cultures of the xanthogenic microbes so that they produce only such slight disturbances and changes of composition in the blood and in the tissues as will confer immunity, we shall then obtain for yellow fever the same great desideratum which we have already obtained for smallpox, for chicken cholera and for splenic fever in those animals which are susceptible to it.

Now I remarked that after a certain number of successive cultures the microbe became much less virulent, and guinea-pigs inoculated with it did not die, resisting an injection of from 50 to 100 cubic centimetres of attenuated culture fluid. They had slight fever, loss of flesh and some other symptoms, which disappeared in a few days; besides, in a great number of the animals thus vaccinated, having made a few days later an injection of virulent blood, I proved that some of them died, although the same injection killed all those not inoculated with attenuated cultures.

The vaccine is prepared as follows: The blood of a patient, dead, or about to die of yellow fever, is injected into the veins of a guinea-pig or a rabbit. A second animal of the same species is then inoculated with the blood of the first, and so on for six or seven animals. With the blood of the last cultures are made, which

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are transplanted at least four times; then I commence inoculations upon man, not, however, without having first ascertained, by experiments on animals, that the inoculations will not produce grave results. We thus obtain a tenth or twelfth generation from the primitive microbe, the virulence being notably diminished. The attenuation is caused by the new conditions with which the microbe is surrounded in passing through the organism of the guinea-pig, and its after-cultivation in sterilized test-tubes containing beef-broth or gelatine.

Besides this, cultures attenuate of themselves gradually under the influence of air, so that a liquid at first virulent may be inoculated without danger in from seven to ten days afterward. These cultures once attenuated preserve their attenuation indefinitely until epidemic seasons, during which their activity almost insensibly increases. I therefore undertook experiments to ascertain how to renew the virulence of the cultures, and I can now, at any time of year, whether during the epidemic period or not, keep up the virulence of these cultures, and change them at will from a toxic to an attenuated condition, and *vice versâ*, obtaining gradually the energy proper for vaccination and increasing it up to that which is infallibly fatal. I proceeded as follows in obtaining this important desideratum.

1. I practised inoculation by the hypodermatic method, injecting under the wing of pigeons or chickens 15 minims of attenuated culture fluid, used for the inoculation of patients.

2. Three hours afterward I killed the birds, in the blood of which the culture had been in a state of incubation or digestion, collecting the blood in sterilized flasks, conducting the operation with all the technical precautions necessary to prevent the introduction of foreign germs.

3. Immediately after, I inoculated small birds with this blood, allowing 5 minims to 7½ drachms weight of the animal.

All those used in this experiment died within seven days.

The experiment repeated fifteen days on *tiés* and *sanhassies* gave identical results.

4. At the autopsy I found in the bodies of the birds lesions similar to those of yellow fever, and among the appearances I would cite as of high diagnostic importance matter black as writing ink in the gizzard and intestines. The blood of these birds examined microscopically shows the microbes characteristic of the disease.

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5. The blood of the chickens and pigeons killed, as stated in paragraph 2, preserved its deadly virulence for sixteen days, after which attenuation commenced.

6. Guinea-pigs inoculated with the same blood (the inoculation being intrahepatic, into the peritoneum or simply subcutaneous), even in a proportion of eight minims per one and one-quarter pounds weight of animal was also toxic, killing in from two to ten days. The anatomical lesions confirmed the diagnosis of yellow fever. The fluid of the stomach was very turbid and black, and the urine contained albumen.

7. If the blood from pigeons or chickens No. 1 is injected into one of the same species No. 2, 3, 4 or 5, the energy of the virus progressively decreases according to the number of transplantations made from one animal to another. We may thus always procure a series of cultures systematically graduated. When animals, either birds or guinea-pigs, are inoculated with attenuated cultures, they obtain the immunity of vaccination and are no longer affected by fatal virus.

8. The specific microbe having its ordinary appearance is found in every case in cultures thus graduated.

9. Confining myself for the present to the statement of these facts, I will not now attempt to explain why the microbes remain unaffected in strength for some hours within an animal organism itself insusceptible to yellow fever, this agreeing with the observations described in my last work, and recently repeated, with an identical result, by Dr. Rangé, of the French Navy.

The fact that an organism may not itself be affected by a morbid element, and may yet increase the virulence of that element, extraordinary as it may seem, may explain a great number of questions relative to the peculiarities of contagion during epidemics, as it may seem, may explain a great number of questions relative to the peculiarities of contagion during epidemics, as it may also explain many obscure circumstances relating to the hereditary transmission of various disorders.

III. *Vaccinations upon man; practical results.* Only after the long experiments already described upon the virulent power of the microbe of yellow fever, was I encouraged to inoculate the human organism with it. The first 400 vaccinations were made endermi-

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cally, but I came to prefer the hypodermatic method as being much more sure and easier in practice.

The following is the method of procedure: The culture fluid is taken from the flask with every precaution against foreign germs, and preserved in small tubes containing from one to two drachms, these being sterilized by heat and stopped by emery. A few drops of the liquid are turned into a clean capsule, taken up by a Pravaz syringe, and then there is thrown under the skin a quantity varying from two to fifteen minims, according to the age of the individual. The disturbances which result from the vaccination are like the prodromes of yellow fever. They are manifested by intraorbital headache, rigors, general lassitude, with heaviness of the limbs, backache, febrile action (99.5°, 100.5°, 102.5° F.), slight epigastric pain, and sometimes nausea, or even vomiting, all lasting not longer than two or three days without the use of remedies. There is no local cause for these phenomena, for there only appears around the puncture a slight reddish areola which quickly disappears.

I shall give a résumé of the results hitherto obtained from these vaccinations. The vaccinations have been performed gratuitously, and were authorized by Ministerial Decree No. 4546, of the Brazilian Government, November 9, 1883.

During the epidemic of yellow fever which took place at Rio Janeiro in 1883 and 1884, I vaccinated 418 persons. not only before the epidemic, but while it was raging with its greatest intensity. The number of unvaccinated persons who died of yellow fever was 650. Among the veccinated persons there were *seven* who also appeared on the list as having died from the disease. Although there are serious doubts as to whether the diagnosis was correct, I will follow the counsel of my distinguished colleague, Dr. Trouessart, and not seek to suppress these rare cases of failure, especially in view of the imposing number (411) of successful vaccinations which I can put to my credit. This is an extremely favorable proportion, especially when we reflect that the patients in question belong to the working classes, and lived in *estalagens*, damp, narrow and badly ventilated chambers in the most unhealthy quarter of the city, where the mortality among the unvaccinated, especially among foreign workmen, was great.

Among the 650 unvaccinated persons who died of yellow fever (October, 1883, to June, 1884) 577 were strangers, only 73 Brazil-

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ians. Now I vaccinated 307 strangers, the Brazilians who fill up the list of 418 all came from the interior, and were therefore under the same conditions of susceptibility as strangers, the yellow fever being unknown in the interior of Brazil, and flourishing only on the sea-coast. Not one of the Brazilians vaccinated died of yellow fever.

The results obtained the next year (January to August, 1885) by means of inoculations made, not by the lancet, but by the hypodermatic method, were still more favorable. During this interval the number of deaths from yellow fever from among the unvaccinated at Rio Janeiro was 278, 200 strangers and 78 Brazilians, 44 only being born in that city. During this same period I vaccinated 3,151 persons; 2,186 natives, and 865 strangers. Among the 2,186 natives 625 were young children of foreign parentage, consequently as susceptible as strangers themselves. During the entire epidemic not one died. The immunity was absolute.

These figures speak for themselves, I think, but this is not all, for during the last epidemic which broke out at Rio Janeiro in 1886, the statistical results confirm their eloquence.

In fact, during this period we vaccinated 3,473 persons: Brazilians, 2,763; strangers, 710. Of the Brazilians, 489 were of foreign parentage, all quite young, and should really be added to the 710 strangers, as presenting the same degree of susceptibility as the latter. More than this, 222 came from different provinces of the interior and the south, and were therefore in a very favorable condition for contracting the disease. There were really 1,421 vaccinated persons who should be added to those who cannot be said to be exempt from contagion by reason of residence. There remained 2,053 Brazilian subjects, age varying from a few months to sixty years. In this group a large number, by reason of age or residence in quarters most subject to the scourge, were under the most favorable conditions for becoming victims. Among those vaccinated there were but eight who died of yellow fever, one of whom had been inoculated in 1885, although during the same period the mortality from the disease among non-vaccinated persons was 1,389, thus divided: strangers, 1,079; Brazilians, 310.

If we recapitulate the vaccinations by the hypodermatic method during 1885 and 1886, we obtain the following result:

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First vaccinations in 1886..... 3,473
Deaths of vaccinated persons..... 7
Second vaccinations in 1885..... .. 3,051
Deaths of vaccinated persons..... 1
Total vaccinations..... 6,524
Total deaths of vaccinated persons..... 8
Mortality of vaccinated persons..... 1 per cent.
Mortallty in yellow fever cases of non-vaccinated persons according to official reports for the years 1885 and 1886... 1,667

Let us now arrange this so as to include the statistics of 1884, when we employed the endermic method; we have:

Vaccinated..... 6,942
Deaths of vaccinated persons..... 15

Which gives us hardly two per cent. of mortality of vaccinated persons.

Deaths of the non-vaccinated..... 2,317

I here give but a short abridgement, the entire statistical details are given in a paper presented to the Academy of Sciences at Paris. Still, I think it is sufficient to show the real benefits which may result from a general use of the prophylactic method.

For all the statistical details the reader is referred to the following works:

1st. "Rapport sur les inoculations préventives de la fièvre jaune durant l'épidemie qui a regné en 1883 et 1884, à Rio Janeiro, presenté au Ministre de l'Interieur au Bresil." This report is annexed to my work entitled "Doctrine microbienne de la fièvre jaune."

2d. "Le vaccin de la fièvre jaune. Resultats statisques des inoculations préventives pratiquées avec la culture du microbe attenué, de Janvier à Août de 1885."

3d. "Statisique des vaccinations pratiquées avec la culture attenué du microbe de la fièvre jaune de Septembre, 1885, à Septembre, 1886."

I also recommend the report made by Drs. Rebourgeon, Gibier and myself to the Académie des Sciences de Paris, entitled "Résultas obtenus par l'inoculation preventive du virus attenuè de

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la fièvre jaune." This paper was presented and read before the Academy of Sciences by the lamented Prof. Vulpian, who introduced it with some remarks very flattering to us, thus contributing to the success of our investigations.—*Medical News.*

INGENIOUS METHOD OF REMOVING NASAL POLYPI.

By Kemp P. Battle, Jr., M.D., Raleigh, N. C.

All surgeons who have had experience in removing polypi from the posterior parts of the nasal cavities, and from the upper pharynx, must have met with cases in which it was a difficult matter to get the loop of the wire snare in position, especially when the growths were large. An experiment which I employed recently in such a case may prove of value to others. The patient had not breathed through either nostril for eleven months, and when seen by me for the first time the polypus was found, by the aid of the rhinoscopic mirror, to be growing apparently from the right nasal cavity, projecting into the upper pharynx, partly filling it, and lapping over the septum so as to obscure the view into the left cavity. It could not be seen from the anterior nares on either side, even after the use of cocaine. Its site could not be determined with accuracy, but was found afterward to be on the external wall of the right cavity. This was somewhat contracted anteriorly, and the amount of space available in which to work was limited. A four per cent. solution of cocaine was applied, and the platinum-wire loop of a snare-apparatus, connected with a galvano-cautery battery, was insinuated through the nostril, past the growth, and into the pharynx. But the wire was so small and pliable, and the polypus so large, that after trial it seemed impossible to get the loop caught around it. I failed with instruments guided by the mirror, and also with the finger hooked up behind the palate. The difficulty would have been much the same with the steel wire of the cold snare. I then took a rubber tube, two feet long and 1-12 inch in diameter, outside measurement, and threaded through it a piece of platinum wire of still greater length, leaving some of it protruding from each end. This was doubled, and the loop was pushed through the nasal cavity

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into the pharynx by means of a small straight throat-brush, the hairs of the brush being parted so as to act as a fork. The rubber tube being much easier to manipulate than the wire alone, owing to its elasticity and greater size, it was not difficult to get the tumor engaged in the loop by the use of the finger. The loop was drawn snugly around the pedicle, one end of the wire was held fast, and the tube was gradually pulled out of the nostril, slipping over the wire and off the other end, leaving the wire in place. The double copper tubes were then taken from the handle, the short wire previously used having been removed, and the ends of the long wire were passed through them, and the tubes slipped down the wire into the nasal cavity as far as they would go. The handle was attached to the copper tubes, the wires tightened, the circuit closed, and the pedicle cut through in the ordinary way. The polypus was about the size of a large walnut. The presence of an assistant was of value in the manipulation.—*Medical Record.*

HEPATIC CIRRHOSIS IN CHILDREN.

Dr. R. Palmer Howard, of Montreal, reports in the October number of *The American Journal of the Medical Sciences*, two cases of this rare affection in children, in which neither the use of alcohol nor the virus of syphilis can be assigned as the cause. Dr. Howard then presents a very careful study of the clinical histories of the 63 cases occurring in children before puberty of which he has been able to collect the records. As the result of this analysis he finds:

1st. That most of the established causes of the disease in adults obtain also in children, more especially the use of alcohol, present in 15.8 per cent. of the whole number; syphilis, chiefly hereditary syphilis, present in 11 per cent.; tuberculous disease of other organs than the liver, in 11 per cent.; also, but much less frequently than these, venous congestion of the liver, peritonitis, and a general tendency to connective tissue formation in the system.

2d. That syphilis occasionally tends to a diffuse interstitial hepatitis or cirrhosis, by first inducing an adhesive inflammation of the portal vein.

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3d. That a general arterio-capillary fibrosis is not proved by these cases to be the usual, and probably not even a frequent, cause of hepatic cirrhosis in childhood.

4th. That more than half of the cases of hepatic cirrhosis in children do not appear to be produced by the above-mentioned well-established causes of that affection.

5th. That there is some evidence that cirrhosis of the liver may be very exceptionally induced by the acute infectious diseases—cholera, typhoid fever, measles, scarlatina, but that proof of this is wanting.

6th. That the habitual use of a stimulating diet, or the absorption of the products of faulty digestion, are probably fruitful sources of hepatic cirrhosis in children.

7th. That it is in harmony with what is known of the causes of hepatic cirrhosis to believe that the bodies known as ptomaines may be capable of exciting a cirrhotic condition, and that investigation of this subject deserves attention.

8th. That the period of childhood most likely to cirrhosis of the liver is from the ninth to the fifteenth year inclusive, but that it may be congenital, and may occur at any age after birth.

9th. That it is twice as frequent in male children as in female.

10th. That its symptoms are essentially the same in childhood as adult life.

11th. That it is frequently accompanied by pyrexia.

12th. That ascites of icterus, and frequently both together, are of common occurrence in the atrophic and hypertrophic forms.

13th. That the group of symptoms which have been referred to cholæmia or to cholesteræmia or to acholia, and even sometimes to uræmia, frequently ushers in the fatal issue of hepatic cirrhosis in children.

INTUSSUSCEPTION—ABDOMINAL SECTION—RECOVERY.—The following is the brief report of the case made to the Cambridge Medical Society. A boy of three years was admitted to the hospital with a history of pain, vomiting and partial obstruction for four weeks and complete for three weeks. Abdominal section was performed on the day of admission and the intussusception reduced. The patient was discharged from the hospital six weeks afterwards cured, the bowels acting regularly.—*British Medical Journal.*

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CIRCULAR SUTURE OF THE INTESTINE.

Dr. William S. Halstead, of New York, contributes to the October number of *The American Journal of the Medical Sciences*, an elaborate experimental study of this subject, which may be summarized as follows:

It is impossible to suture the serosa alone, as advised by authors.

It is impossible to suture unfailingly the serosa and muscularis alone, unless one is familiar with the resistance offered to the point of the needle by the coats of the intestine. Furthermore, stitches which include nothing but these two coats tear out easily, and are, therefore, not to be trusted.

Each stitch should include a bit of the submucosa. A thread of this coat is much stronger than a shred of the entire thickness of the serosa and muscularis. It is not difficult to familiarize one's self with the resistance furnished by the submucosa, and it is quite as easy to include a bit of this coat in each stitch as to suture the serosa and muscularis alone.

It is unnecessary in performing circular suture of the intestine to make more than one complete row of stitches if they be of the plain-quilt variety. Unless all of the stitches of the row are applied before a single one is tied, it is impossible to preserve a straight line in the application of them.

It facilitates the operation very much to make five or six presection sutures; the eversion of the mucous membrane, which otherwise takes place and makes the application of first-row, postsection stitches troublesome, is thus prevented. The first presection stitches should be introduced at the mesenteric border of the intestine, and at a place as free from fat as possible.

The plain-quilt stitches are to be preferred to the ordinary Lembert stitches, because (1) one row of them (the former) is sufficient for the circular suture; (2) the knots of the first row of Lembert's stitches prevent the most accurate apposition of the opposed peritoneal surfaces; (3) the plain-quilt stitches constrict the tissues less than the Lembert stitches; and (4) the former tear out less easily than the latter. Madelung's cartilage-plates, which he employs partly to prevent the tearing out of the stitches, are unnecessary when a bit of the submucosa is taken up with each stitch.

The vessels of the excised intestines should be ligated by circum-

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vection. It is not necessary to exsect a triangular piece of mesentery, and it is unadvisable to sew together the edges of the rent in the mesentery, for, in so doing, one might include small vessels which contribute to the blood-supply of the sutured parts.

Solutions of corrosive sublimate stronger than 1 : 20,000 should not be used for irrigation. It would be better, perhaps, to employ weaker solutions (1 : 30,000 or 1 : 40,000). The irrigation should be attended to most diligently when the stitches are being tied.

THE CONTAGIUM OF SCARLET FEVER.

This article consists of quite an exhaustive consideration of the evidence thus far brought forward regarding the specific poison of scarlatina.

The following criticisms are made upon Mr. Power's conclusion that the milk which produced the epidemic of scarlatina became infected from the disease upon the udders of the Hendon cows. Three herds became infected by sale and change of stock, the disease being in all respects identical, so far as one could judge from the descriptions.

The milk from *only one* dairy was associated with the epidemic. No contagion was carried from the other dairies. The result of inoculation of the milkers' hands was not scarlatina, but symptoms of local poisoning, with sometimes those of mild general septicæmia.

Dr. Klein found a streptococcus in the ulcers upon the udders. He inoculated calves, produced a general febrile disease, in one case fatal, and obtained the same coccus from the blood and organs. He found in the blood and organs of scarlatinal patients the same organism.

This looks certainly very plausible, but the writer's objection is that the finding of the same coccus in the two situations does not prove that it is the cause of scarlatina. There is no proof that the coccus has produced in man the disease scarlatina; and, secondly, there is wanting the proof that the disease which it has produced in animals by inoculation is scarlatina in any form.

The visceral lesions of scarlatina, even including the nephritis, are not sufficiently characteristic to enable us with certainty to distinguish it from other infectious diseases or forms of blood-poisoning.

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All the symptoms and all the lesions found in Dr. Klein's animals would be sufficiently explained by septic inflammation or blood-poisoning better even than by scarlatina. Nothing comparable to the eruption and desquamation of scarlet fever was ever produced in the calves nor was ever seen in the Hendon cows.

After noticing the large number of writers who have observed micro-organisms of various kinds in scarlatina, the writer passes to the consideration of the "bacillus scarlatinæ" discovered by Edington (*vide Archives of Pediatrics* for July).

This bacillus was found in the blood in the early stages, but not late, and found in the desquamation in the later stages, but not early. It is the latter fact that gives these experiments their greatest weight.

Sufficient control experiments have not been made by Edington or others upon the bacilli of healthy skin and the skin in diseases other than scarlatina. These will doubtless soon be forthcoming.

The only absolute demonstration that Edington's bacillus is the cause of scarlatina will be that, when introduced into the blood of the human subjects, it produces the disease. Next to this in value will be that the organism is always found in the blood and organs of scarlet fever, but never elsewhere. We will be long waiting for such a position to be established. To be sure, Edington produced in animals a disease attended by erythema and followed by desquamation. This is not enough. There are many forms of erythema not scarlatinal which may even desquamate. We must see produced in animals a disease so strikingly like human scarlatina as to satisfy all clinical observers; or animals suffering from inoculation must communicate scarlatina to man. None of these criteria are as yet satisfied.

The work of Klein and Edington has opened the way, others must now step in and fill up the gaps before our knowledge on this topic can be complete.—*George Thin in British Medical Journal—Archives of Pediatrics.*

TONSILLITIS.—Let the patient wet his forefinger and dip it into powdered bicarbonate of sodium. The surface of the tonsil should be rubbed with the end of this finger every five minutes during half an hour, afterwards every hour during the same day. Three applications a day are then sufficient. The author since adopting this treatment has not had to lance a single inflamed tonsil.—*Lyon Médical.*

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OPHTHALMIA NEONATORUM.

This is an abstract of a clinical lecture upon the subject, in which the lecturer urges strongly the necessity of searching for the gonococcus in all these cases. The following is an easy and rapid method: A drop of pus is placed on a glass slide and spread out by means of a second slide. Each one is then stained in an alcoholic solution of methyl blue with an equal volume of water, and allowed to remain two minutes. They are then washed in plenty of water. Each leucocyte will be seen under the microscope to have three or four nuclei, this being the special character of the disease; the increase in nuclei heralding the approach of the gonococci, which are seen as blue spherical bodies in the interior of the leucocytes. If one leucocyte so invaded can be discovered, the diagnosis can be made positively.

The indications for treatment are:

1. To clear away the agent of infection.
2. To prevent its development.
3. To destroy it where it is.

First, careful washing out is necessary, the eyelids should be everted, the conjunctiva stretched, and all the folds of its sac thoroughly syringed out with a ball syringe. The lids should then be turned back, rubbed against each other, and, after again everting, the syringing repeated. To destroy the microbes which have already penetrated into the conjunctival sac the solid or mitigated stick of nitrate of silver should be used, and the excess neutralized immediately by a salt solution.

The eye should be washed with a sublimate solution, one to six thousand, and iced water compresses kept constantly applied. Great care is necessary to prevent relapses in cases apparently cured.

As a prophylactic measure, douches of the sublimate solution, one to six thousand should be used in all labors, especially where the woman suffers from leucorrhœa.—*Gayet in the Lancet—Archives of Pediatrics.*

Sting of Insects.—Castor-oil is said to be an infallible remedy for the sting of bees or other insects. It appears to counteract the poison and allay the pain as soon as applied.—*Medical Register.*

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., " } Editors.

☞ *Original communications are solicited from all parts of the country, and especially from the medical profession of* THE CAROLINAS. *Articles requiring illustrations can be promptly supplied by previous arrangement with the Editors. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the* JOURNAL, *by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to* THOMAS F. WOOD, M. D., *P. O. Drawer* 791, *Wilmington, N. C.*

STENOCARPIN, THE NEW LOCAL ANESTHETIC.

It has not been many weeks since a new local anesthetic was announced under the name of Stenocarpin. The story was that a veterinarian in Louisiana had discovered that the leaves of a certain tree when applied to a painful wound revealed anesthetic properties. It was experimented with by several physicians and the anesthetic virtues established. There was a certain amount of mystery connected with the identity of the plant from which the drug was obtained, which can now be explained by the fact that it was to be worked up as a commercial product. We were not willing to

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believe that the *New Orleans Medical Journal*, with an able corps of editors, could not identify a common tree, with such a clew as the common name of "tear blanket," and the other slender botanical clew, that it has "thorns and leaves like the acacia." It appears to us now that the name and description were intended as a "blind," to give opportunity to the "discoverers" to make some headway with their business preparations.

The source of stenocarpin is no longer a mystery, if the specimens submitted to the botanist of the National Museum are of the genuine tree, as it proves to be a well-known tree *Gleditschia triacanthos*, the common honey locust, which is common in the United States, from Pennsylvania South and West. If this be the real source of stenocarpin the supply is practically inexhaustible.

It is remarkable that this principle in the Gleditschia has been discovered, and this discovery will probably lead to others, so that local anesthetics will be plentiful. More than one plant gives promise of similar properties—one of these, *Zanthoxylum Carolinianum*, Lam, which grows on the coast in the Southern States, known popularly as toothache tree, gives promise of similar anesthetic properties, although not yet demonstrated.

To return to Stenocarpin, we notice that there is already "a company" engaged in its manufacture, and its virtues are lauded beyond those of cocaine.

The *Medical Record* (October 1) gives a supplemental article by Dr. J. Herbert Claiborne, Jr., on the source of stenocarpin, coming to the conclusion that the "Tear Blanket" tree is *Gleditschia triacanthos*, as stated above, and suggesting the name *Gleditschine* for the active principle.

The leaves of the honey locust, from which gleditschine is prepared, when chewed, do not impart the peculiar sensation that coca leaves do, and altogether it is the most unlikely source from which an anesthetic might be prepared.

The illustration of the fruit and leaves in the *Medical Record* leave no doubt of the identity of the plant.

Fleas may be "totally annihilated," according to a writer in the *Madras Mail*, by sprinkling the floor with powdered sweet flag root (*calamus aromaticus*).

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TRAINED NURSES IN SMALLER COMMUNITIES.

The *Medical Record* (October 1) gives us an excellent article on the above subject. We have advocated the training of nurses in our North Carolina towns, but have not heard of any movement having been made to set the good work on foot. There have been some inquiries from educated young ladies who seemed interested in the matter, and the accomplishment of something practical, we trust, is not far in the future.

"The establishment of a cottage-hospital and small training-school in provincial [country] communities introduces a social factor of the utmost value. About it many isolated charitable projects can cluster wish mutual advantage. It becomes a so-called charity organization society, of which there is often as much need in small places as in large. In undertaking its foundation, local physicians can greatly increase their influence in the community. They can secure better care for their patients, and thus relieve themselves of a great deal of anxiety."—*Medical Record.*

In every community there must be educated young women whose talents do not run in the direction of housekeeping and sewing, who are not fit to be, or could not get employment as teachers, who are not eager to become wives, but whose amiable and even temper, gentle manners, earnest sympathy for the afflicted, good health and strong back would make them suitable candidates for the profession of a nurse. It is highly important that these nurses should come from the most respected portion of the community. They should have character enough to inspire confidence in their fidelity to all trusts, and not assume the rôle of doctor or interfere with the doctor's plans.

A few cases of disreputable conduct of trained nurses has come to our ears, which are sufficient, in our estimation, to advise the avoidance of trained nurses whose moral character cannot be vouched for by some responsible person. A common custom with these disreputable nurses is, on all pretexts, to give opiates to their patients to save them the trouble of night-watching. In one case an esteemed physician was nursed by one of these professional nurses. She made it appear to the attending physician that the patient needed morphia, and she was intrusted with the hypodermic syringe. The patient physician, too far gone by enfeebling disease

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to resist, fell into the fatal habit, and never recovered. The writer of this has several cases in his mind of just such criminal practice on the part of nurses.

We need trained nurses, and the hospitals of Wilmington, Fayetteville, Raleigh and Asheville ought to be utilized for this purpose. In Wilmington a small contribution would enable the Hospital Managers to establish a training school.

AMYLENE HYDRATE—A NEW HYPNOTIC.

We abstract from the *Therapeutic Gazette* (September) the following account of this new drug. It promises to be one of the most important of the many additions to the list of hypnotics. It was introduced by Prof. J. von Mehring. It is described as a clear, colorless liquid, with a penetrating odor, recalling camphor, oil of peppermint and paraldehyde. It has a specific gravity of 0.81. It dissolves in eight parts of water and is miscible in alcohol in all proportions. Amylene hydrate appears to be specially liable to contamination with amylic alcohol, which may be detected, if present, by the formation of valerianic acid upon oxidation with potassium bichromate and sulphuric acid.

In all, Mehring has given amylene hydrate to sixty different persons in three hundred and fifty different doses, each dose varying from 50 to 90 drops. The affections in which he employed the substance were of the most varied character—sleeplessness from nervousness, delirium tremens, phthisis, and in convalescence from various febrile diseases. Only in four cases out of all these did it prove inefficacious. Twice it was employed in whooping-cough with a favorable result, but, like chloral, it proved unreliable in producing sleep when the wakfulness was due to pain. It is said to possess a less disagreeable taste than paraldehyde, and the exhalations after taking it are not so disagreeable. From its freedom from danger and more pleasant taste, it is evidently to be preferred to either chloral or paraldehyde, even though it be weaker, as a hypnotic, than chloral. It may be administered internally or by enemata. In sleeplessness from pain amylene hydrate may with advantage, be combined with hydrochlorate of morphine. No unpleasant after effects of any kind, according to Von Mehring, follows the employment of this substance; no nausea, vomiting, headache or disturbance of digestion.

Other hypnotics have from time to time been as highly lauded, but were found to have serious drawbacks. This may not be any better, but its prospects as yet appear very promising.

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REVIEWS AND BOOK NOTICES.

DRUITT'S SURGEON'S VADE-MECUM. A Manual of Modern Surgery. Edited by Stanley Boyd, M.B., B.S., etc. Twelfth Edition. Philadelphia: Lea Brothers & Co. 1887.

Those of our readers who remember Druitt's Surgery" as a text-book, when it was a small volume and the constant companion of his student days, will not recognize the present portly volume of nearly a thousand pages. Indeed, it is essentially a new book, re-written from beginning to the end. A lesson in the advance of surgery can most readily be reviewed by comparing the earlier editions of this work along "in the fifties" to the vast accumulations of theory and practice which are in vogue now, and he will at once see that it has been brought about chiefly by the teaching of Lister and his followers. Antiseptic surgery, with all its far-reaching results, has made such a quiet revolution in surgery that it is hard to realize until we have the opportunity to compare the teaching of less than a quarter of a century ago. All this addition of new matter has taken this volume out of the list of elementary text-books, and placed it side by side with the more pretentious works on the same subject.

The editor has brought his work up to the latest date, and we miss in our short perusal little material that has attained the rank of established practice. Pasteur's treatment of hydrophobia, the uses of cocaine, and all of the latest surgical triumphs. Of course it was too much to expect that Duryer's intubation of the larynx would at such an early date find its place there.

Nearly every subject which the student or practitioner would desire to consult a surgical volume for has found its place here—diseases of the eye, extraction and "stopping" of teeth, and all the little and big things which occupy the attention of the general practitioner in town or country.

The ligature of arteries is a carefully prepared section, which has been illustrated by the author with drawings from the dead subject.

The volume closes with about twenty pages of formulæ covering a broad range of practical therapeutics.

The student will find that the new Druitt is to this generation

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what the old one was to the former, and no higher praise need be accorded to any volume.

THE COTTON WORM.

The final report of the United States Entomological Commission on the *Cotton Worm*, with a chapter on the *Boll Worm*, is a volume of importance both to the planter and to the entomologist. That it is from the pen of Prof. Charles V. Riley, Ph.D., Entomologist of the Department of Agriculture, is sufficient to cause it to be read by a large number of our subscribers. It is a portly work of nearly 600 pages, of which 64 pages are illustrations. Although the work is so extensive, it will interest any interested in cotton, who has any taste for reading above that of trashy newspapers. Six of the illustrations are in beautiful chromo-lithographs, enabling the dullest reader to detect the pestiferous flies which infest the leaves and bolls of the cotton plant. We presume a copy may be procured from members of Congress of any of the districts, to a limited extent.

We are indebted to Hon. R. T. Bennett for our copy and for other choice volumes on scientific subjects.

DIFFERENTIAL DIAGNOSIS: A Manual of the Comparative Seminology of the More Important Diseases. By F. de Haviland Hall, M.D., Assistant Physician Westminster Hospital, London. Philadelphia: D. G. Brinton, 115 South 7th St. Edited by Frank Woodbury, M.D.

This useful volume has reached its third edition. It is, as the title indicates, a guide to diagnosis, and the student is assisted by the admirable arrangement of the text, and enabled to differentiate diseases by comparing similar ones in parallel columns. As far as we have examined the work is brought up to the latest progress in medicine, but kept within the limits of about 250 pages.

LESSONS IN GYNECOLOGY. By Wm. Goodell, A.M., M.D. Third Edition. With 112 Illustrations. Philadelphia: D. G. Brinton, 115 South 7th St.

The Lessons in Gynecology, now so well known to the medical profession, comes to us in its third edition, a large, portly volume, a welcome visitor. Delivered in the form of lectures, the style is

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entertaining, but loses none of its scientific accuracy. The lesson on Ovariotomy, which will be as eagerly sought by the reader who sees the work for the first time, will not disappoint. The history of the operation, the statistics, the methods of operating, the instruments to be used, the treatment of the pedicle, the toilet of the peritoneum, the drainage, the hygienics of the sick chamber are told plainly and with the emphasis of one who has had abundant experience.

Many new illustrations have been added and much new matter, and take it all in all, we count this volume indispensable in the library of the general practitioner.

PHYSICIAN'S VISITING LIST.

P. Blakiston Son & Co. have been issuing to the profession for many years a visiting list, so that it is well known to the profession. But for 1888 they have excelled themselves in the manufacture, making it more and more desirable. The prices range from $1 to $3.

EULOGY PAID TO THE DOCTORS.—If the doctors knew what a splendid eulogy that genuine Scotch genius, Robert Louis Stevenson, had paid them in the dedication to his recent volume of verse, that show him to be a poetic genius of no mean order, they would read his stories if they did not read his poetry. He says of the noble army of doctors, and however it may apply to many, it will not apply to all, it may be said with regret: "There are men and classes of men that stand above the common herd: The soldier, the sailor and the shepherd not unfrequently; the artist rarely; rarelier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization: and when that stage of man is done with, and only remembered to be marvelled at in history, he will be thought to have shared as little as any in the defects of the period, and most fully exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Heraclean cheerfulness and courage. So it is that he brings air and cheerfulness into the sick-room, and often enough, though not so often as he wishes, healing." That is indeed a most noble tribute, and what is better, there are physicians all over the world, and in the South, and in North Cerolina, and in Wilmington, who may take to themselves the high praise that would seem to belong only to the ideal master in the healing art."—*Wilmington Star, September* 23.

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NEW YORK LETTER.

METROPOLITAN MEDICAL MEDLEY.

The New Yorker interested in matters medical, has much to occupy his attention in the present aspect of affairs from a professional standpoint in the city. The colleges are all in full blast again, and with a prospect of an unusually full attendance; the various hospitals, public and private, some of which have been closed during the summer for renovation and repairs, are beginning to show signs of renewed life and activity with the advent of cooler weather. The daily programme of operations includes everything from the opening of a superficial abscess to a double ovariotomy. The visiting physician is confused with the multitude of professional riches with which he finds himself encompassed. Much interest is felt, too, on the part of both the local faculty and the laity, in the result of the recent introduction of that dreaded scourge, genuine Asiatic cholera in our midst. An emigrant ship, the Alesia, loaded with passengers from a cholera infected port of Italy, arrived off Sandy Hook some three weeks ago with several well developed cases of the disease on board. Several passengers had died on the voyage over. The ship was rigidly quarantined, the sick removed to an isolated island, the remaining passengers transferred to another island, all communication cut off to and from the city, and the result watched with anxious solicitude by all concerned. Fumigation and disinfection of ship, cargo and passengers, according to the most approved methods, has been fully carried out, but in spite of every effort on the part of the health officials, the record of deaths among the four hundred scourge-stricken passengers has been lengthened by almost a daily addition. There have been fourteen fatal cases since the vessel first reached our harbor, and there are now ten patients sick with the disease lying in the hospital on Swinburne's Island. The other passengers are still isolated on Hoffman's Island, and will not be allowed to land until all trace of the disease shall have disappeared. The vessel and crew have, however, been relieved of quarantine restrictions, and

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have come up into the harbor proper. The published statements with which the newspapers have been filled relative to our unwelcome visitor, based upon the official statements of the quarantine authorities, are to the effect that there is no occasion for alarm. As the most rigid isolation is observed, the season is unfavorable to an epidemic and the city of New York in a sanitary and hygienic condition so favorable as to reduce the danger to the minimum. There are some "long-headed" and carefully observant members of the medical faculty of New York, however, who are not so sanguine of immunity from a visitation next summer. Even should the disease germs brought by the Alesia undergo annihilation, there still remains the same source of danger of which she is an example. Cholera is not abating in Italy, and it has secured a foothold on other Mediterranean shores, and what is much worse for us, it has manifested its unmistakable presence upon the South American coast. The incident should serve, in any event, as an incentive to the most rigid sanitary regulation of all our ports, and an absolute, and, if necessary, arbitrary enforcement of all quarantine measures. Meantime we await the issue in suspense, and "shall see what we shall see."

DIAGNOSTIC SURGERY—CASES.

Dr. Tilt, in his monograph on the "Change of Life," in referring to the operation of ovariotomy, writes of it as an example of "American audacity." Whether or not his language would have been different had the honor of originating the operation rested with an Englishman, may be readily inferred. Viewed from the standpoint of the surgical school three or four decades past, hampered as they were with the traditions of a still more ancient school, the language might indeed meet with some justification, but in the light of recent progress and the present era of heroic advance, the expression must be considered totally inadequate. Conservative ovariotomy was merely a stepping-stone, and to-day no operative procedure can be suggested for which there cannot be found somewhere an operator and an argument in its defence. The surgeon's knife of to-day has no limit in its scope of action—no single organ has a guarantee of immunity from its touch, and the end is not yet. Abdominal section, until quite recently held in reserve as a *dernier ressort* in otherwise necessarily fatal cases, is now almost daily met

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with in the records of both hospital and private practice, as a perfectly justifiable means of simple diagnosis. So thoroughly have the safeguards of antisepsis and improved methods stripped the operating table of its dangers that no limit can be predicated of the surgery of the future. As evidence in support of the statements made above, the writer can cite no less than three cases of exploratory laparotomy within the past ten days, in one of which it was his good fortune to figure as "*particeps criminis*," (?) and in the other two as an interested "looker-on in Vienna."

If you are a resident physician in New York, and are so lucky as to get your name on the mail roll of the hospitals, you are notified by postal of each day's programme of operations in advance, and can arrange your plans in accordance. A postal from Mt. Sinai Hospital (which is, by the way, an institution endowed by Jews for Jews, and with a house staff all Israelites) informed me one day last week that Dr. John A. Wyeth, one of the visiting surgeons, would do an exploratory laparotomy among other operations, and I availed myself of the opportunity to be present and see what he would find. By the way, it is just a little curious how a medical term will spring into prominent popularity and retain its hold. One rarely hears of an ovariotomy now in the hospitals here in New York, or of an abdominal section, or of an oorphorectomy. It is a laparotomy for this and a laparotomy for that, and, indeed, the term is so elastic and so popular, that it is applied, with specific modifications to designate its locality, to almost all forms of abdominal section. The subject in this particular case was brought into the operating room with a history of an attack of illness beginning three or four weeks previous characterized by pain, tenderness and swelling in the right iliac region, fever, varying in degree, but never very great, with rapid and marked emaciation and debility. Family history good and previous health fair. Typhlitis, perityphlitis, obstruction, tumor of kidney and peritonitis were diagnostic suppositions, and had each formed a basis for tentative treatment, but with no appreciable benefit, nor did either of them account satisfactorily for all the conditions present. The patient had asked for an operation, and the object was a diagnosis, and if possible surgical relief. On exposure of patient a tumor-like mass could be seen filling up the right iliac region, which by palpation was found to be hard and nodulor, and apparently adherent laterally and posteriorly

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and slightly so anteriorly. Dr. Wyeth, after examination superficially, advanced the opinion of malignancy, in which Dr. Charles Carroll Lee, af the Woman's Hospital, who was present, concurred. The patient was put under ether, and an incision was made probably five inches in length in the median line. The tissues were carefully dissected up and divided, a digital examination made within the abdominal cavity, the growth pronounced cancerous and the cavity closed with interrupted catgut suture, under rigid antisepsis, without the removal of the growth, which was pronounced, under the circumstances, an impracticable and useless procedure. Dr. Wyeth, who is one of the originators and an honored professor of the New York Polyclinic, is one of the most minutely careful and deliberate surgeons I have ever seen operate. A prince among anatomists, he owes much of his success to his almost marvelous accumulation of anatomical knowledge. He is an advocate of thorough antisepsis, and is as punctilious as an old maid as a stickler for order in the arrangement of the paraphernalia and appointments of the operating room.

Case number two occurred in the private practice of Dr. T. C. Fuller, of W. 50th St., this city, though the operation was done at St. Elizabeth's Hospital, a private institution under Roman Catholic supervision and control, though just now involved in litigation. The patient, a married lady, had been treated by Dr. Fuller for symptoms due to pressure on the pelvic organs by a cystic tumor of the dermoid variety, according to the diagnosis of the attending physician (Dr. F.), some four months previous to the operation. Aspiration had afforded temporary relief, which had been further augmented by a vaginal incision with the introduction of a drainage-tube. During the temporary absence of Dr. Fuller from the city, another physician, who had been called in in an emergency, had resorted to measures for relief which resulted in the establishment of a septicæmic peritonitis, necessitating an immediate and radical procedure of some sort for her relief. With the consent of the patient and her family, an exploratory laparotomy was decided upon, and, with the assistance of Dr. A. H. Goelet, of 54th St., and the writer, Dr. Fuller performed the operation. The tumor, which was flaccid and compressible, lay slightly to the right of the median line, though the incision was made as usual, in a line beginning an inch or two above the pubic symphisis to within an inch of the

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umbilicus. The operation was done by gaslight, by the way, as the necessity for immediate interference was urgent, and chloroform was used as the anesthetic, the first time I have seen it take the place of ether as an anesthetic in more than an hundred operations seen in private and hospital practice within the past four months.

On opening the abdominal cavity a diffused redness of the peritoneum with lymph exudates in patches made manifest the suspected peritonitis, and a further examination revealed a large dermoid cyst with general adhesions (inflammatory) and apparently springing from the bottom of the pelvis in the region posterior to Douglas' *cul-de-sac*. The cyst was filled with a sero-purulent fluid intensely fetid in character, and with a mass of hair as large as an orange lying loosely in its interior. The escape of some of this fluid through an opening in the weakened cyst walls had given rise to the septic infection and peritonitis which we found. After some trouble the adhesions were broken up, the growth removed and the cavity carefully cleansed with several gallons of hot water and sponges. A drainage-tube was inserted through the vaginal opening previously made and the cavity closed according to the usual method. The dressing consisted of iodoform and bichloride gauze, covered with several layers of absorbent cotton held in place by strong, well-drawn bandages. The patient rallied nicely from the shock of the operation, but died on the third day from profound septicæmic exhaustion.

W. B. PRITCHARD,
243 W. 54th St., N. Y.

[The report of the third case of laparotomy had not come to hand when this article went to press, and will be reserved for a subsequent issue.—EDS.]

ANNALS OF GYNÆCOLOGY is the title of a new monthly review of gynæcology, obstetrics and abdominal surgery. E. W. Cushing, M.D., is the editor, with five collaborators from among the most noted specialists in New York. It is published by Rockwell & Churchill, in Boston, at $1 for the first year and $2 for the next. The first issue has a number of photographic illustrations, which will probably greatly improve as the work progresses.

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CURRENT LITERATURE.

BORACIC ACID FOR STERILIZING URINE.

The two prime dangers in the operation of internal urethrotomy are urethral fever and hemorrhage, presuming, of course, that the operator has assured himself of the soundness of his patient's kidneys before operating. In a recent conversation with an eminent surgeon of one of the New York hospitals, he remarked in response to a statement that I made. that "the millenium in urethral surgery would be reached whenever the means was discovered of sterilizing the urine by internal medication." The ground for this strong statement was the fact that urethral fever, that dread of operators upon the urethra, is due to infiltration of the tissues of the body by a germ-laden urine.

About the only attempt that has, up to quite recently, been made to prevent urethral fever from following urethrotomies and kindred operations, has been the internal exhibition, prior to the operation, of quinine and the subsequent use of antiseptic injections. My remark that called forth this surgeon's statement was to the effect that we can, by the free administration of boracic acid for twenty-four hours before, and for some days subsequent to the operation, render the urine absolutely sterile, and thus, without any quinine whatever, escape all danger of urethral fever. At that time my experience with this agent thus given was hardly sufficient to warrant a positive assertion. Something less than a year ago I ordered, in a case characterized by purulent and fermenting urine, the exhibition of boracic acid in ten-grain doses. The effect for good was so immediate and striking, that I determined to use the remedy instead of quinine in my next urethrotomy, having several times previously encountered severe fever in this operation, despite the free exhibition of quinine.

In some forty subsequent urethrotomies, several for strictures of small calibre, a number under adverse circumstances, I have had but one case of urethral fever. In that case, operated upon in the practice of a neighbor physician, last month for stricture of small calibre in a negro, the attendant, by some misunderstanding, omitted

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the boracic acid after the first subsequent day. A violent chill, with temperature of 105°, rapidly following, occurred on the third day. The bladder and urethra were at once washed out with boracic acid, and its internal exhibition in twenty-grain doses renewed. Happily the patient recovered, having served, if but in a negative way, to demonstrate the value of boracic acid as an internal antiseptic. I usually employ ten grains in compressed tablets every three hours, though as high as thirty grains every three or four hours may be given without any irritating or otherwise injurious action upon the alimentary canal. I should, of course, mention that full antiseptic precautions are always employed as regards the instruments used, and that in most cases I also wash out for several days the bladder and urethra with an ordinary hot boracic and bichloride solution—an admirable means, by the way, for arrest of hemorrhage, in addition to those already laid down in works on the treatment of stricture. The misgivings with which I formerly performed this wonderful salutary operation are wholly gone. Hemorrhage, the other danger, is growing more and more rare under improvements in instruments and operative procedure, and when it does occur is ordinarily easy of control. Cocaine, of course, has fully demonstrated its value in penile surgery. The sterilizing bath which I use for my instruments is a saturated solution of hydronapthol. It is superior for that purpose to carbolic acid.—*Dr. E. R. Palmer, American Practitioner and News.*

MEASURES FOR RELIEF OF CONGESTIVE HEADACHES.

A few years ago I treated these cases with hot alkaline sprays, gently applied, and the use of hot fomentations, combined with the usual constitutional remedies. This mode of treatment has not been altogether satisfactory, and during the last four years I have substituted for it the local abstraction of blood, for which I can allege unqualified success. In many cases there is experienced an immediate relief of the pain, and in all there is a sense of the loosening of the constriction. A simple bleeding may relieve the headache, or it may have to be repeated in a day, a week or a month. I have seen but few cases which were not permanently relieved by a bleeding repeatad from two to six times.

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To produce the bleeding no cut is required. The cavernous body of the nose is simply pricked, and the blood flows freely until the excessive tension has been reduced; then it ceases. The amount of blood drawn rarely exceeds one ounce; in many cases it is less than this, and in some cases a single drachm of blood removed will give the requisite relief. In cases of excessive congestion the flow will equal several ounces before it ceases, the quantity of blood being dependent on the distension of the vessels, and this corresponds with the severity of the symptoms. From a normal membrane, or where there is no excessive vascular distension, scarcely a drop of blood will flow from a simple puncture of the membrane such as would produce a free flow in this pathological condition. In cases where the mucous membrane is thickened, a sharper puncture will be necessary to bring blood. A lance-headed probe may be used in making the puncture, although a sharp-pointed bistoury, or any pointed instrument, will answer. The probe has the advantage that it does not excite the apprehension of the patients, many of whom become nervous at the sight of a knife, and dread the idea of being cut.—*N. C. Glasgow, New York Medical Journal—Medical Analectic.*

MOLLIN.

Mollin (so-called by Canz, a pharmacist of Leipzig, who worked out the details of its manufacture) is formed by soaping lard with caustic potash solution in the cold so that seventeen per cent. of the fat remains free, then warming the mass with thirty per cent. of pure glycerine. It forms a dull whitish body, which smears well, and is yet of firm consistence, keeps unchanged, washes off readily from the skin simply by the application of water, and does not dirty the clothing. It forms an admirable base for a mercurial ointment, rubbing up quickly with equal parts of metal, and forming a cleanly ointment—an important distinction from the common blue ointment, which is an eminently dirty composition. Kirsten also speaks well of the styrax ointment, and of that made with pix liquida, but it will serve equally well as a base for all the ordinary ointments, except those used for the more acute affections. In the *Monatshefte*, 1887, No. 10, the same

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author recommends a Mollinum (or Mollin ointment) made up with tincture of iodine, as being far preferable to the ordinary ointment made with fat. This Mollinum Tr. Iodi he finds of most extensive use, and wonders that the tincture of iodine is so neglected by medical men. His list comprises "all inflammatory and non-inflammatory swellings of superficial parts, e. g., of the glands, periosteum, subcutaneous cellular tissue, lymph vessels, muscles and skin, certain degenerations of the skin, the abortive treatment of whitlows, boils and abscesses, chilblains, smallpox vesicles, various affections of the joints, bursa mucosa, testes, seminal cords, etc.; dislocations, sprains; absorption of exudation, as in pleurisy; subcutaneous blood effusions and extravasations, etc." The Mollinum Potassi Iodidi Kirsten intends to take the place of the useless officinal salve made up with vaseline. It is formed by adding iodide of potassium solution to Mollinum, the dose of the tincture and the salt being regulated according to the wish of the prescriber. The salt does not decompose and liberate its iodine until it is rubbed into the skin.—*Medical Chronicle.*

A NEW REMEDY FOR BURNS.

I was called in some haste to a little child about three weeks ago, who was badly burned about the hands and face from falling on a hot stove. The burns were deep, the pain excessive, and the shock very considerable. I hastily sent to the drug store for a mixture of lime-water, olive oil and carbolic acid. While waiting for this, I prepared to give the child a hypodermic injection of morphine with which to allay the agony, which was so great that convulsions seemed imminent. While I was getting ready to do this, I spied upon the shelf a bottle of Pinus Canadensis (colorless), which I had sometime before ordered to be diluted as a vaginal wash for the mother. Remembering its wonderful soothing influence in acute inflammation of the vagina, I at once concluded to try it. Taking a corner of a soft handkerchief, I rapidly painted the injured parts, when, like magic, the pain ceased. You can well imagine my surprise and delight at the result. I directed a camel's hair-brush to be purchased, and had the mother to make free applications, and the case had no other treatment save a little

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iodoform ointment later on. Since this I have tried it in several cases, both slight and severe, and with the same delightful results. The preparation used was made by the Rio Chemical Company, of St. Louis, Missouri.— *W. C. Wile, M.D., in Medical Register.*

LITHIUM CARBONATE AND SODIUM ARSENIATE IN CARBONIC ACID WATER IN DIABETES.

Martineau recommends the following preparation: Into an apparatus such as is commonly used in Paris for extemporaneously making carbonic acid water, are put twenty centigrammes of lithium carbonate and a tablespoonful of a solution of twenty centigrammes of sodium arseniate in 500 grams of distilled water. The quantity of carbonic acid water used is about one litre. This quantity is to be drunk by the patient during each day, either by itself or mixed with ordinary wine at meals.

The simplicity of this remedy led Dr. Austin Flint to test its efficacy in certain cases of obstinate diabetes which he had under treatment. The ten cases reported led Dr. Flint to the following conclusions:

1. In the three severe cases in which the solution of lithium carbonate and sodium arseniate in carbonic acid were used, no very marked effects were observed in the few weeks during which the remedy was employed; but the treatment seems to be worthy of more extended trial, and it may be useful in mitigating the severity of a strict antidiabetic diet.

2. The so-called specifics for diabetes have little if any effect. An exception, however, may be made in favor of the arsenite of bromine, which has sometimes seemed to control, to a slight extent, the thirst, polyuria and discharge of sugar.

3. The main reliance in treatment is to be placed upon an antidiabetic diet. This has fallen somewhat into disrepute because it is seldom efficiently carried out. In no single instance, out of 99 recorded cases, did Dr. Flint find that the antidiabetic diet had been enforced.

4. Milk should be absolutely interdicted. Its influence over the progress of the disease is prompt, powerful and most injurious.

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5. There are certain cases in which dietetic treatment promptly arrests the disease and keeps it under control. There are other cases in which treatment seems to be of little avail, except in possibly retarding the progress towards a fatal result. Of the ten cases reported, and now under observation, seven are amenable to treatment and three are obstinate.

6. A confirmed diabetic may be cured, in the sense that all symptoms will disappear; but the disease is liable to return at any time under an unrestricted diet. Still, moderate care in diet will often secure immunity.

7. A patient who has once had diabetes should have his urine examined every few weeks. The glycosuria always precedes the general symptoms of the disease, and these general symptoms can generally be forestalled by proper treatment employed as soon as sugar makes its appearance in the urine.

8. As the disease returns, either from imprudences in diet or from other causes, the successive recurrences present greater and greater difficulties in the way of treatment.—*Therapeutic Gazette.*

THE TREATMENT OF GASTRALGIA.

I can tell you a drug which cures gastralgia. Before you prescribe it, however, you ought to find out if there be any prominent pathological concomitants or causal antecedents of the disorder, and deal with them. Anemia, sexual excess, over-work, work under wrong conditions, uterine discharges, masturbation, etc., must be appropriately met. But for the cure of the gastralgia something more is usually necessary. Of all the directly therapeutic results in medicine with which I am acquainted, one of the most demonstrable is that which can be produced by the suitable exhibition of arsenious acid in uncomplicated gastralgia. I give one twenty-fourth of a grain of arsenious acid, made into a pill with two grains of extract of gentian, thrice daily, between meals. The use of this remedy must be continued for a few weeks. In a case of moderate severity no other medicinal treatment is necessary. The gastralgic pains become less frequent and less severe, and recovery is steadily

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and surely attained. In severer cases I use some form of counter-irritation to the epigastrium, and I usually employ a rubefacient liniment of ammonia. In the severest cases vesication by a fly-blister is of service, and the blistered surface should be kept raw for some days by means of a daily dressing of savin ointment. But you must not rely upon treatment by drugs alone. Every hygienic adjuvant which tends to raise the strength of the patient is of high value in the cure of gastralgia. I especially advise you to make sure the sufferer feeds well and fully. The diet should be generous. A "dyspeptic" regimen makes a case of gastralgia worse. When you are satisfied there is no, or but slight, gastric catarrh in the gastralgia of a fairly vigorous adult, you should direct a dietary after this plan: Breakfast, bread and butter, or dry toast, with some fresh white fish, or some cold chicken or game, or mutton-chop, with a breakfast cupful of cocoa or weak tea or coffee. Dinner (1 p. m.), fresh beef or mutton, with bread, potatoes, cooked green vegetables, a fruit tart or a farinaceous pudding, with a glass of light bitter ale. Tea (5 p. m.), bread and butter or dry toast, with a small cupful of cocoa, tea, or milk and water. Supper (not later than 9 p. m.), white fish, or some cold chicken or game, or a little cold meat, with bread, and a glass of ale.—*Sir James Sawyer, in Lancet.*

TREATMENT OF ANAL FISSURE AND HÆMORRHOIDS BY GRADUAL DILATATION.

Anal fissure or irritable ulcer, according to statistics, ranks third in frequency among the diseases of the rectum, is found in the infant as well as in the octogenarian, and is due principally to the passage of hardened fæces through the sphincters. Although insignificant in character, it causes fully as much exquisite agony as any ill that human flesh is heir to. Very many simple fissures get well promptly, but where, by frequent mechanical irritation, they come to stay, it is then that beneficial treatment is desirable. Many cases will, however, refuse a radical operation, and for this reason Dr. H. O. Walker (*New York Medical Journal*, July 30, 1887) recommends the treatment of such cases by gradual dilatation. He was

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led to employ this process in a case which refused operation, and in which various forms of treatment by suppositories failed to produce relief. Dr. Walker in this case introduced a bi-valved rectal speculum, slightly separating the blades, and allowing them to remain *in situ* for about two minutes. This procedure was continued daily, gradually increasing the dilatation at each sitting until the blades were separated to their fullest extent—about two inches in diameter. This treatment was continued until there was an entire subsidence of all previous symptoms, with a full healing of the fissure and hæmorrhoidal tumors and disappearance of constipation; entire treatment lasting about five weeks. Dr. Walker likewise reports in detail four other cases taken from a record of upwards of fifty, which he has treated by this method, and which he considers are fair representatives of the character and results of the whole. In all of these cure was produced. In conclusion, he recommends the treatment of anal fissure and hæmorrhoids by gradual dilatation on the following grounds:

1. It is almost painless, at least after the first two or three distentions.

2. It does not tear the parts, nor does it produce paresos, as occasionally occurs after forcible dilatation.

3. Neither does it leave cicatrices that are apt to produce stricture, as in the method of hypodermic injection or ligature of hæmorrhoids.—*Therapeutic Gazette.*

A NOVEL UTERINE DILATOR.—Dr. C. P. Wilkinson, of New Orleans, reports in the New Orleans *Medical and Surgical Journal* for May, 1887, an interesting case of labor delayed by rigidity of the os uteri, in which he effected dilatation by introducing into the uterus a rubber condom, upon a female catheter, and distending the former by means of a tube connected with a fountain syringe. The bag of the fountain syringe was raised about two feet. It was found that the patient could not bear an uninterrupted pressure, on account of the pain it produced, and Dr. Wilkinson imitated nature by raising the bag of the syringe during the pain, and lowering it during the intervals between the pains. By this means he made his artificial bag of water act like a natural bag of water, and even supplement the efforts of nature to produce dilatation during pains, and relieved his patient of the strain at the times during which nature relaxes her exertions.

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NOTES.

We regret to learn of the death of Dr. James A. Gray, of the *Atlanta Medical and Surgical Journal.*

Nitrate of silver in gonorrhœa is an old practice revived, coming into use this time by the all-pervading germ theory. It is, of course, German.

Dr. Hubert Haywood, of Raleigh, has been promoted to be Surgeon General of the State Guard, and Dr. Julian M. Baker, of Tarborough, to be Assistant Surgeon General.

The *American Druggist* recommends a watery solution of tannic acid to remove the odor of iodoform from the hands. The tannic acid solution leaves no odor of its own and can be easily washed off.

Dr. W. C. Wile, in the *Medical Register*, recommends the frequent painting of a burnt or scalded surface with the colorless fluid extract of pinus canadensis. He claims that its use promptly quiets pain and promotes rapid cure.

We are pleased to learn that Dr. Richard Whitehead, of Salisbury, the son of the late Dr. Marcellus Whitehead, has received the appointment of Demonstrator of Anatomy at the University of Virginia. He graduated at that Institution last year, and we are informed led the class.

Dr. Amory Chapin, in the *N. Y. Medical Journal*, of October 8th, says that solutions of cocaine deteriorate, and that only fresh solutions are reliable for anæsthetic effects. The difference in the age of solutions, he thinks, may account for the different results which are obtained by observing when the drug is used for local anæsthesia.

Litholapaxy in Children.—Dr. Goldsmith tabulates 22 cases of litholapaxy (*Indian Medical Gazette, Medical Chronicle, Eng.*) ending in a cure. The great value of the operation is that the patient is practically well within 48 hours after the operation. The steps of the operation are the same as in the male adult except that the meatus urethra was incised.

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Dr. von Nussbaum, of Munich, has recently performed his five-hundredth ovariotomy.

Yellow Fever at Tampa.—Surgeon General John B. Hamilton, U. S. M. H. S, in a communication to the *Medical News*, confirms the report in the daily press that the disease is yellow fever, and urges the maintenance of a guard quarantine, and every effort to diminish the number of people subject to the disease.

Dr. Valentine H. Taliaferro, a prominent physician and teacher of Atlanta, Ga., died recently at Tate's Springs, in Tennessee. He was at one time Professor of Gynecology in the Atlanta Medical College. He entered the Confederate Army as a private in 1861, and at the close of the war he was Acting Brigadier General.

Mr Richard Quain, F.R.C.S., Eng., died September 15th. He was for a long time Professor of Anatomy at University College, London, and Surgeon to the Hospital. He was the younger brother of the Dr. Jones Quain who was one of the authors of the famous Sharpey & Quain's Elements of Anatomy, and the cousin of the better known Dr. Richard Quain, the editor of the dictionary.

Medical Classics is the name of a bi-monthly journal, in which we find reprints of many of the rare and musty authors of centuries ago. Although published by a chemical company as an advertising medium of the Liebig Chemical Company, it reproduces some of the now quaint productions of Hippocrates, Sydenham and other worthies. It is published at $1.00 a year at 38 Murray St., N. Y.

A case of rupture of a fatty heart, the lesion being demonstrated by a *post-mortem* examination, is reported by Dr. Holmes, of New Jersey, in the *Medical and Surgical Reporter* of Philadelphia. The patient, a colored woman 40 years old, was found lying in semi-conscious state, with weak pulse, cold, clammy skin and slight convulsive movements of lower limbs. Morphia and whiskey were given her. She lived twenty-four hours and died suddenly. The *post-mortem* revealed a rupture of right ventricle one inch long. There was much dilatation and hypertrophy of the right heart and slight hypertrophy of the left ventricle. The reporter supposes that a clot plugged the vent from the time of the first seizure and prolonged life one day by its presence.

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PILOCARPINE IN PUERPERAL ECLAMPSIA.—Nitrate of pilocarpine gave good results in a case of puerperal eclampsia in which chloral and bromide of potassium combined with the administration of ether during the paroxysms. It was given in doses of 1-5 grain the first time, afterwards in doses of $\frac{1}{8}$ grain.

REMARKABLE CASE OF OVARIAN DISEASE.—Dr. Wm. Alexander, of Liverpool, describes two remarkable cases of ovarian disease, one of which we note. It was one of ovarian tumor in the person of an unmarried woman, with an opening into the rectum through which it discharged occasionaly. On opening the abdomen he found an irregular tumor, of firm and solid consistency, apparently adherent to the other viscera. Freeing it of adhesions, his finger came in contact with some hard substance like an artificial palate, suggesting to him the idea that she may at some time swallowed an artificial palate. The tumor was ovarian and pediculated. The pedicle was tied and the growth removed. The tumor consisted of three parts, upper, middle and lower. The upper part was a fœtal structure, an irregularly formed upper jaw, having an imperfect, hard, bony palate above, with what corresponds to a soft palate below. In the alveoli of the hard palate were seven teeth. The alveoli and teeth were imperfectly developed, several of the teeth were merely attached to the mucous-membrane of the gum. It was evidently an enclosure of part of the fœtal structure of a twin child, the palate and teeth alone arriving at a wonderful degree of maturity.—*Medical Chronicle, Manchester, Eng., October.*

MEDICAL CHATAUQUA.—It is proposed in the *Medical Register* to organize a medical chatauqua. The idea is a very good one. The well-known chatauqua reading courses in history, literature and other branches of learning, have met with marked success, and have stimulated young men in the South to supplement their scanty education, and and to future study, by inculcating the habit of profitable reading. If such a plan can be organized under the direction of highly cultured medical scholars, it will do great things for the profession. As strange as it may seem, the majority of medical men are not assiduous readers. Many of them are satisfied with their attainments at college, and the same old text-books ten years after graduation will constitute their library, and in many instances they show decided signs of accumulated dust and general

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neglect. To medical men practising far away from the stimulating effects of competition, a course of reading under a competent scholar of an hour or more each day—and no doctor is so busy that he cannot give that much time—would not only add greatly to his stock of learning, but afford just the sort of diversion all of them need.

CHOLERA AT NEW YORK should make all of our municipal authorities alert. It is highly probable that the disease will be in this country next spring, and this warning ought to be enough to incite towns and cities in this State to *begin now to prepare* for the dread visitor. Let thorough cleansing begin in the lowly negro huts in the suburbs, and be carried on throughout the towns, and by weekly visitation and inspection push the good work until it becomes the habit of the population, from the nasty negro hut to the more refined premises of the well-to-do. In the former locations filth is open and visible, in the latter probably with a thin veneer of decency. *Let thorough cleansing and drainage precede the application of disinfectants.*

SQUIBB'S EPHEMERIS, dated October, comes to us after the long interval of eight months—it is nevertheless welcome. "The Oil of Wintergreen (Oil of Birch) as a Therapeutic Agent" is the caption of a paper by Dr. Squibb read before the King's County Medical Association. He points out the fact that most of the oil of wintergreen is really oil of birch, and should be so labelled. Doses of the oil as a substitute for salycilic acid, of ten minims four or six times a day, will produce ringing in the ears—if not, it might be increased by two minims until the desired effect is produced. It seems to be most appropriately used in milder attacks of gouty rheumatism or rheumatic gout, which are so much more numerous than cases of acute articular rheumatism. These cases occur in hundreds, and the physician who can relieve an hundred of such is of more used to the community than one who makes a successful laparotomy, and more rapidly gets a better reputation; and besides he does more—much more, in combatting quackery and pretense. Notes on "Veratrum Viride," on "Opium Assay," on "Cascara Sagrada," on "Hydrochlorate of Cocaine," on "Fluid Extracts by Percolation," and on "Fluid Extract and Extract of Buckthorn." With due respect for the opinion of Dr. Squibb on "Cascara

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Sagrada," we know by actual experience covering several years that Cascara Sagrada is by great odds the most successful and pleasant laxative which has been added to the list of medicines for so many years, especially in habitual constipation. Rhamnus Frangula, especially, is far inferior to it. There is a great prejudice amongst many manufacturers against the California buckthorn, but its value has been abundantly proven by actual practice. The writer of this in a busy practice has rarely in any single day for five years failed to make one or more prescriptions a day of the drug, and knows whereof he writes.

Laxative Currants.—A very agreeable purgative for children are the passulæ laxativæ, of the Danish Pharmacopœia. Four ounces of senna leaves are digested for half an hour, with eight fluid ounces of hot water, thrown on the strainer, and expressed sufficiently to make six fluid ounces, which are boiled to a syrup with twelve ounces of sugar. Pour the hot syrup over twelve ounces of well-washed currants (Corinthian raisins) and mix well with three drachms of powdered Ceylon cinnamon. The dose is one to two teaspoonfuls.—*H. M. Wilder, in the Pharmaceutical and Chemical Gazette.*

We give place cheerfully to the note from the enterprising firm of Parke, Davis & Co.:—*Gleditschine—Will Its Claims be Substantiated?*—Dr. J. H. Claiborne, in the New York *Medical Record*, Dr. Herman Knapp, in the same journal, and Dr. Edward Jackson, of the Philadelphia *Medical News*, have recently published the results of their experience with the new local anæsthetic, improperly called stenocarpine, but which, being derived from *Gleditschia Triacanthos*, should be called Gleditschine. If the claims of these writers are substantiated by further experience, we may expect cocaine to yield its supremacy to this new claimant for anæsthetic honors. The results recorded would indicate that Gleditschine possesses greater anæstheti cpower than cocaine, and mydriatic effects exceeding those of homatropine. Those who desire to subject this drug to clinical trial, should address Parke, Davis & Co., who, we learn, are investigating its claims at their Laboratory, and who offer samples of the fluid extract, with a working bulletin descriptive of the drug, to those physicians interested in testing it, and hope soon to be able to supply the alkaloid itself.

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DR. CAZENAVE DE LA ROCHE has found iodide of potassium combined with cow's milk an efficient remedy for asthma. It should be given as follows: Distilled water, 150 grammes; iodide of potassium, 8 grammes. One tablespoonful of the solution in a cup of milk twice a day.—*British Medical Journal.*

SURGICAL AFFECTIONS IN WHITES AND NEGROES.—Dr. McLane Tiffany, of Baltimore, in a paper read before the American Surgical Association, concludes that surgical affections follow different courses in the white and colored races under identical hygienic surroundings; surgical injuries and operations are better borne by negroes than by whites; surgical diseases involving the lymphatic system, especially tuberculär, are more rapidly and certainly fatal in negroes than in whites; congenital deformities are rarer in negroes than in whites; the surgical differences observed are due to racial peculiarities.—*Medical Standard.*

INFLUENCE OF CALOMEL UPON THE DECOMPOSITION OF BILE.—Zawadsky, after a long and carefully made series of laboratory researches, cites the following conclusions: 1. Calomel has an antiseptic action upon the bile and the contents of the intestine. 2. This is explained by the transformation of the calomel in the bile and in the intestine, into Hg_2O, a transformation favored by the alkaline reaction of the contents of the intestine. 3. The characteristic color of the excrements—observed after the administration of the calomel—depends: *a*, on the one hand, upon the transformation of bilirubin (perhaps of hydro-bilirubin) into biliverdin, under the influence of Hg^2O, as per the formula:

$$\underset{\text{Bilirubin}}{C^{16}H_{18}N_2O_3} + 2Hg_2O = \underset{\text{Biliverdin}}{C_{16}H_{18}N_2O_4} + Hg\ O + 3Hg$$

with the liberation of metallic mercury; and *b*, on the other hand, of the presence of biliverden (a normal constituent of bile) which was prevented from decomposition on account of the antiseptic action of the calomel and of Hg_2O. 4. The acid reaction of the medium, as also the other unfavorable conditions of the juice, explain, probably, the absence of color in the excrements characteristic in some cases after taking calomel. (*Laboratoire pharmacolog. du Prof. Toumass, Wratsch*, Nos. 15 and 16, 1887; *Bull Gén. de Thérap.*, July 15, 1887.)—*Am. Jour. Pharm.*

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It is said that milk charged with carbonic acid will keep an indefinite length of time.—*American Medical Journal.*

New Tænifuge.—Dr. Numa Campi, in the *Raccoglitor Medico,* highly extols the virtues of thymol as a remedy against tænia solium. In this he is only following the lead of Lewin, Federici and Vanni, all of whom have used it as a vermicide in one way or another, and with very satisfactory results. Probably the best method of exhibition, however, is that devised by Campi, which is as follows: In the evening no supper is eaten, the patient retiring after having taken a small dose of castor oil (from a half ounce to six drachms of the oil). In the morning two drachms of thymol are divided into twelve doses of ten grains each, and one dose is taken every fifteen minutes until all are ingested. Immediately after taking the last dose of thymol, another dose of castor oil, the same size as that taken the previous night, is administered. The treatment is usually rapid and energetic, the worm being expelled entire in the course of a few minutes after the last dose of oil. The thymol is best administered in *cachets,* either wafer or gelatin (the ordinary capsule), but it should not be put into the receiver until just before taking.

E. W. Germer, M.D., ex-President of the State Board of Health, died at Erie, August 22, at the age of fifty-six. He was born in Altsbrisach, Baden, Germany, and graduated in Medicine at the Vienna University in 1859. During the Baden revolution he was among the insurgents, and was severely wounded. Coming to Erie, he engaged in the practice of medicine. When the smallpox scourge developed in Erie he was nurse, physician, undertaker and clergyman. He was appointed on the State Board of Health by Governor Pattison, and was President of that body last year. He was a member of the National Board of Health, and at the last meeting of the State Board was elected to represent Pennsylvania at the International Sanitary Convention at Berlin next month. While on the State Board he was on the committee which investigated and located the cause of fever-contagions at Plymouth and Pittsburg. It was through his efforts that the grave of General Anthony Wayne was finally located.—*Medical Times.* [Dr. Germer was a frank, outspoken man, zealous as a sanitarian, of infinite humor, and his death will be a serious loss to the public health fraternity.—Eds.]

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THE AMERICAN PUBLIC HEALTH ASSOCIATION.—The fifteenth annual meeting will be held in Memphis, Tennessee, on Tuesday, Wednesday, Thursday and Friday, November 8, 9, 10 and 11, 1887. The following topics have been selected by the Executive Committee for consideration: 1. "The Pollution of Water-Supplies"; 2. "The Disposal of Refuse Matter of Cities"; 3. "The Disposal of Refuse Matter of Villages, Summer Resorts and Isolated Tenements"; . "Animal Diseases Dangerous to Man." It is announced that this selection does not preclude the presentation of papers upon other subjects, and that the Secretary has already been notified that papers upon other interesting topics will be presented.

THE STENOCARPINE SENSATION—AN ATTEMPT TO IMPOSE UPON THE MEDICAL PROFESSION.—Our readers are doubtless familiar with the reports of Drs. J. H. Claiborne, Hermann Knapp and Edward Jackson, concerning the so-called new local anæsthetic, Gleditschine or Stenocarpine, which were published in the *New York Medical Record*, July 30th, August 13th and October 1st, and *Philadelphia Medical News*, September 3d, in which Gleditschine was claimed to possess remarkable anæsthetic and mydriatic properties.

It will, therefore, be of interest to them to learn that Messrs. Parke, Davis & Co. announce that an investigation at their laboratory, of a solution purporting to be a 2 per cent. solution of Gleditschine or Stenocarpine, which was supplied by Messrs. Lehn & Fink, of New York, has developed the fact that this solution, with which the experiments thus far recorded have been made, contains 6 per cent. of Cocaine and a sulphate of a salt which further experiment is likely to prove to be Atropia.

F. A. Thompson, Ph.C., also reports, after careful experiment with the leaves of Gleditschia Triacanthos, from which Gleditschine or Stenocarpine is claimed to have been derived, that they contain only an infinitesimal percentage of an amorphous alkaloid devoid of anæsthetic or mydriatic properties.

In the light of these facts it seems probable that the Stenocarpine sensation should be classed with the Hopeine fraud of malodorous memory, and that the physicians who have already published reports regarding Gleditschine or Stenocarpine have been the victims of a clever hoax.

[The facts given above are just as we feared they would be when a thorough investigation was made.—EDS.]

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LIST OF NEW MEDICAL PUBLICATIONS.

Surgical Relations of the Ileo-Cæcal Region. By J. McF. Gaston, M.D.

Pathology, Diagnosis and Treatment of Perforation of the Appendix Vermiformis. By J. McF. Gaston, M.D.

A Manual of Physical Diagnosis of Thoracic Diseases. By E. Darwin Hudson, Jr., A.M., M.D. New York: Wm. Wood & Co.

Lessons in Gynecology. By William Goodell, A.M., M.D. Third Edition. One Hundred and Twelve Illustrations. Philadelphia: D. G. Brinton, 115 South 7th St., 1887.

A Reference Handbook of the Medical Sciences. By various writers. Edited by Albert H. Buck, M.D. Vol. V. Wm. Wood & Co., 56 & 58 La Fayette Place, N. Y.

Cyclopœdia of Obstetrics and Gynecology. A Handbook of General Operative Gynecology. By Dr. A. Hegar and Dr. R. Kaltenbach. New York: Wm. Wood & Co. Vols. VII, VIII and IX.

Differential Diagnosis. A Manual of the Comparative Semeiology of the More Important Diseases. By F. de Haviland Hall, M.D., Assistant Physician Westminster Hospital, London. Third American Edition. Edited by Dr. Frank Woodbnry. Philadelphia: D. G. Brinton, 115 South 7th St., 1887.

According to Dr. Robert McC. Lord (*Medical Journal*), when in breech presentation the head cannot be delivered soon enough to guard against asphyxia, air may be freely admitted to the child's mouth and nostrils by gentle traction on the posterior vaginal wall with a Sim's speculum.

The New York health department has found arsenic and antimony present in the bright red-colored stockings of commerce. Both very poisonous to the skin and body when absorbed.

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BOOKS AND PAMPHLETS RECEIVED.

Heating and Ventilation. By T. Clarke Miller, M. D.

The Coloring of Candies. By Erastus G. Smith, Ph.D.

Dr. Augustus J. Bowie. In Memoriam. By Dr. Levi C. Lane.

Practical Thoughts for Physicians. By G. W. H. Kemper, M.D.

The Relation of the Physician to Sanitation. By T. Clarke Miller, M.D.

Journal of the Shakspere Club of the University of North Carolina 1886–'87.

Recommendations in Regard to the Care of Infants. Pennsylvania State Board of Health.

The Technique of Tracheotomy and Intubation of the Larynx. By Charles Godwin Jennings, M.D.

Suprapubic Cystotomy for Purposes other than the Extraction of Calculus. By John H. Packard, A.M., M.D.

Progressive Spastic Ataxia (Combined Fascicular Sclerosis) and the Combined Scleroses of the Spinal Cord. By C. L. Dana, M.D.

Transactions of the Medical Association of the State of Missouri. Thirteenth Annual Session. Held at Macon City, Mo., May 10, 1887.

Transactions of the Texas State Medical Society. Nineteenth Annual Session. Held at Austin, Texas, April 26, 27, 28 and 29, 1887.

Report of Ten Cases of Aspiration of the Chest for Pleuritic Effusion (Third Series); Eight Pints of Purulent Fluid Withdrawn in One Case. By F. Peyre Porcher, M.D.

The Physician's Leisure Library, No. 3. Diarrhœa and Dysentery. Modern Views of their Pathology and Treatment. By A. B. Palmer, M.D. George S. Davis, Detroit. Price $2.50 a Year; Single Copies 25 cents.

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Iritis. By A. G. Sinclair, M.D.

Intubation of the Larynx. By E. Fletcher Ingals, M.D.

Suppurative Inflammation of the Antrum. By E. Fletcher Ingals, M.D.

Rules and Regulations for the Inspection of Illuminating Oil in the State of Iowa.

Subacute Spinal Paralysis (Progressive). Case with Autopsy. By C. L. Dana, M.D.

On Some Important Points in the Treatment of Deep Urethral Stricture. By F. N. Otis, M.D.

The Care and Management of Infants and Young Children. Suggestions by the Ohio State Board of Health.

On the Existence of "Dermatitis Herpetiformis" (of Duhring) as a Distinct Disease. By L. Duncan Bulkley, A.M., M.D.

A Review of the Most Important Advances in Surgery, Medicine and Pharmacy in the Last Fifty Years. By C. W. Moore, M.D.

The Radical Cure of Retro-Displacements of the Uterus and Procidentia by Alexander's Operation and Median Corporraphy. By J. H. Kellogg, M.D.

Biology of Tumors. A Lecture Delivered at the College of Physicians and Surgeons, Chicago, Ill. By N. Senn, M.D., Ph.D. Wilwaukee, Wis. *Medical Register* reprint.

The Physician's Leisure Library, No. 2. Diseases of the Heart. Vol. I. By Dujardin Beaumetz, M.D. Translated by E. P. Hurd, M.D. George S. Davis Publisher, Detroit: Price $2.50 a year; single copies 25 cents.

SANDAL WOOD OIL is recommended by Dr. E. Philbert as a remedy in renal colic, who used it himself in several attacks. Four of the usual capsules were taken for a dose, and a warm bath was used at the same time. He believes that the oil gave him great relief from one of the most painful of maladies.—*Practitioner.*

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READING NOTICES.

H. B. TALIAFERRO, M.D., Rogers' Prairie, Texas, writes: "I have used Lactated Food in several cases with the happiest results. For children suffering from bowel troubles, with or without inflammation (where they are as apt to die from starvation as the disease), it acts like a charm. In my opinion it is the best food prepared in the United States."

THE GENUINE SUCCUS ALTERANS.—The *genuine* preparation, SUCCUS ALTERANS, gives me the greatest satisfaction in the treatment of syphilis and rheumatism. I have in many such cases given the SUCCUS alone, and I am convinced that it serves me always as the best alterant in treatment of blood diseases.

Yours respectfully,

FREDERICK OBERD, M.D., Hot Springs, Ark.

BROMO-SODA.—On a recent trip to Europe, on both the outward and homeward passages, I used (Warner & Co's) "Effervescing Bromo-Soda" with great success in preventing and relieving sea-sickness; the quantity given was a heaping dessert-spoonful, repeated hourly, if necessary. I believe Bromo-Soda to be a very valuable preventive and remedy for sea-sickness—it certainly was unfailing in my hands.

WM. H. KEIM, M.D.,
2015 Ridge Ave., Philad., Pa.

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NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D., } Editors.

Number 5. Wilmington, November, 1887. Vol. 20

ORIGINAL COMMUNICATIONS.

EVISCERATION—PERFORMED FOR IMPACTED SHOULDER PRESENTATION.

By J. A. Faison, M.D., Mt. Olive, N. C.

As this is a subject worthy of serious consideration, from the fact of its certain mortality to children, and even under the most favorable circumstances of its fearful fatality in mothers, I feel that it cannot be too frequently discussed by medical men. I will ask for space to recount my experience in the following case :

On the evening of September 16th I was called to see Mrs, J., a multipara ; age about 22 years. On reaching the bedside I found her much exhausted from a prolonged labor and suffering with frequent attacks of syncope. I administered brandy and proceeded to make an examination. By digital examination the membranes were found pouching and shoulder presentation clearly made out. By further examination the shoulder and chest were found jammed and immovably fixed in the pelvis.

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Spontaneous version was impossible, because the uniform contractions of the uterus kept the fœtus held down, a condition favored by the insufficiency of liquor amnii. As the child was quite large, it was an utter impossibility for the shoulder and head to pass together through the pelvis, hence the breech or head must be substituted for the presentation. Before rupturing the membranes I attempted version by external manipulation, in which I signally failed. Nothing, therefore, could be gained by a continuance of this method, as the presentation could never be rendered freely movable above the pelvic brim, and the necessity of the case called for rapid delivery. Chloroform was now withheld after its use proved of no avail. The patient at this stage, although under grinding pain, excited by the necessary manipulations, rallied and assumed a new power and energy. Chloroform was again administered, and I next tried the plan which was first suggested by Dr. Wright, of Cincinnati. Placing the woman on her right side, with hips raised and elevated higher than the shoulders, I introduced two fingers of my left hand, and attempted to elevate and push the shoulder towards the left side of the pelvis, whilst at the same time the right hand was engaged on the outside of the abdomen, pressing the fundus downwards and towards the right. Failing in this procedure, I determined to introduce the hand into the uterus, hunt for and bring down a foot as the alternative measure. The arm would come down. By replacing it, and at the same time pushing the hand gently forward, I was enabled to enter the uterus and carry my hand along the abdomen of the child. I carried my hand onwards in search of the knee or foot, the knee being finally gained by making pressure from above downwards. Hoping to get a foot, I still persevered, but could never get firm hold of it, as my hand was terribly cramped. My every effort was now made to accomplish version by bringing down a knee, but my fingers were so crippled by the pressure of the womb that as tractors they were powerless; so I had to give this up as a fruitless effort. As a *dernier ressort* I began to consider the expediency of a destructive operation. Its dangers and its difficulties were laid before the husband and wife, and they agreed that the operation should be done, and declined a consultation which I asked for.

The fœtal heart-sounds were inaudible and the pulsations in the cord had ceased. Notwithstanding Playfair's teaching that "nothing

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is gained by amputation when the arm is completely protruded into vagina," I treated it as an offending member. Hoping to gain greater latitude, and in order to introduce instruments with more freedom, I amputated at a point quite near the axilla by making traction on the arm. The thorax was next pierced by a modification of Naegele's perforator, which was then carefully withdrawn by the side of my left hand, guarding the maternal soft parts. The crotchet was now withdrawn and the hand introduced, the diaphragm broken down and the entire viscera, both thoracic and abdominal, were broken up and removed piecemeal.

The chloroform being withdrawn, the contractions drove the collapsed fœtus forwards, doubled upon itself till the spinal column could be reached, and divided. To facilitate labor, I next divided the entire body, hooked the crotchet in the pelvic half and delivered by slight traction. As soon as I could see the cord it was divided at the umbilicus. The remaining half of the child was expelled by uterine action, which was easily completed, as in pelvic presentations. I followed down the uterus with my hand, and in about thirty minutes the womb contracted nicely and the placenta was detached and expelled by expression. She was having considerable hemorrhage before the expulsion of the placenta, but this was speedily controlled by manipulating the womb and administering a full dose of ergot.

The vagina and uterus were now thoroughly washed and syringed out with a solution of carbolic acid. The clothing and everything about the bed was changed, and I gave her quinine sulphate grs. 10, and morphine sulphate gr. ¼. I directed carbolized vaginal douches twice daily. The subsequent treatment was quinine grs. 10 daily, with fluid extract ergot ℥20 *ter die*; morphine to be used as indicated. A turpentine stupe was placed over the bowels to relieve tenderness when it appeared.

The temperature never went above 100½° F., and the woman did as well as I could wish, and is now fast gaining her strength.

I used clean hands and clean instruments in this operation, and kept her surroundings as clean as possible.

I have endeavored to give you a faithful history of this case, with my reasons and grounds for the operation. Whether version might not have been accomplished, by another and more experienced hand, I leave for others to say. If the operation must be done, it

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should be performed at once, while the woman possessed adequate ability.

The obstetrician should always consider as a primal duty the saving of both mother and child; but in this I had no chance for the life of the child, so my whole endeavors were cast in favor of the mother.

I lay no claims to anything new in this operation, but having performed it without help and without improved instruments, and carrying it to a successful termination and perfect recovery, I give it to the profession for what it is worth.

ANALYSES OF NORTH CAROLINA WINES.

By F. P. Venable, Ph.D., F.C.S., and W. B. Phillips, Ph D.

So far as we are aware no analyses of the wines produced in this State have ever been published. As the industry has grown greatly in the past few years and gives promise of still greater growth, it is manifestly of importance that these wines should be analyzed. A comparison is thus possible with the wines of other localities and our knowledge of the chemistry of wines increased. The wines were in all, save one case, furnished us direct by the makers. Where we have learned of additions made to the fermented juice of the grape, note has been made of it in the table.

Of special interest are the analyses of wines made from the native Scuppernong vine and the closely related vines—the Mish or Meisch, and Bulay. The Scuppernong is very abundant, hardy and prolific in certain sections of the State, and the problem of fermenting and blending so as to secure a good wine from it is very important.

In the accompanying table will be found analyses of nineteen varieties of wine. The analyses were carried out according to the methods recommended by the German Commission of 1884, as recorded by Barth. The figures in the last nine columns represent percentages. The percentage of alcohol is given both by weight and by volume. The "extract" is that which is generally called the "body" of the wine, and is all that portion which will not evaporate at 100°. The ash includes, of course, all mineral matter.

Two or three average analyses of foreign wines are added. They are taken from König's Nahrungs and Gemessmittel, second edition:

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NORTH CAROLINA WINES.

VARIETY OF WINE.	MANUFACTURER'S ADDRESS.	Vintage.	Specific Gravity.	Alcohol by Weight.	Alcohol by Volume.	Tartaric Acid.	Acetic Acid.	Total Acid.	Sugar.	Tannin.	Extract.	Ash.
				Per Ct.	Per Ct.	Per Ct.	Per Ct.	Per Ct.	Per Ct.	Per Ct.	Per Ct.	Per Ct.
Dry Mish	G. W. Garrett & Co., Medoc, N. C.	1885	0.9957	9.51	11.81	0.655	0.044	0.699	0.60	0.020	3.162	0.122
Dry Bulay	" " "	"	0.9951	8.38	10.40	0.818	0.031	0.849	0.45	0.015	2.179	0.113
Dry Imperial—Scuppernong	" " "	"	1.0009	9.37	11.62	0.770	0.022	0.792	2.20	0.025	4.259	0.106
Dry Imperial—Scuppernong	" " "	1884	0.9949	9.36	11.61	0.713	0.055	0.765	0.08	0.025	2.597	0.110
Dry Mish	" " "	"	0.9946	9.64	11.96	0.568	0.041	0.609	0.31	0.025	2.459	0.128
Dry Black—Scuppernong	" " "	1886	0.9944	8.43	10 47	0.855	0.026	0.681	0.20	0.080	2.335	0.139
Dry Norton	" " "	1885	0.9965	9.14	11.35	0.724	0.041	0.765	0.25	0.025	2.785	0.224
Sweet Scuppernong	" " "	1884	1.0823	9.07	11.26	0.617	0.015	0.632	5.75	0.020	13.889	0.112
Sweet Mish	" " "	1885	1.0336	9.71	12.15	0.501	0.028	0.529	5.50	0.025	14.275	0.108
Sweet—Norton	" " "	"	1.0336	9.07	11.26	0.693	0.013	0.706	4.75	0.020	14.927	0.197
King Grape	N. W. Craft, Shove, N. C	"	0.9932	12.77	15.77	0.770	.....	0.770	1.75	Trace.	3.320	0.173
White Victory	" " "	"	1.0392	12.38	15.30	0.755	.....	0.755	4.25	Trace.	16.646	0.106
Sweet—Martha	" " "	1884	1.0332	11.15	13.81	0.708	.....	0.708	2.95	0.005	15.103	0.148
Sweet—Concord	" " "	"	1.0317	10.85	13.43	0.578	.....	0.578	3.00	0.010	15.448	0.204
*Thomasberger	H. Mahler, Raleigh, N. C	.....	1.0365	11.54	14.27	0 554	.....	0.554	3.00	0.010	14.931	0.090
Claret—Ives' Seedling	" "	1884	0.9952	10.46	12.96	0.963	.....	0.963	0.25	0.080	3.137	0.174
Sweet—Port Clinton	" "	1885	1.0314	12.92	15.96	0.886	.....	0.886	2.00	Trace.	10.952	0.202
Dry Scuppernong	G. W. Lawrence, Fayetteville, N.C.	"	0.9931	13.80	17.02	0.655	0.014	0.669	0.50	0.005	3.668	0.116
Sweet Scuppernong	" " "	1884	1.0347	11.85	14 65	0.809	....	0.809	3 00	0.005	14.300	0.140

*The Thomasberger was purchased from a retail establishment, and its vintage is unknown.

FOREIGN WINES.

	Specific Gravity.	Alcohol by Weight.	Tartaric Acid.	Sugar.	Extract.	Ash.
French	0.9952	9.9	.506	.159	3.036	.216
German	0.9954	10.1	.599	.470	2.502	.194
Spanish	1.0593	14 6	.339	11.900	16.520	.....
Italian	1.0019	13.86	.674	3.630	3.259	.214

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TRAUMATIC SYMPATHETIC OPHTHALMIA.

By Joe Howell Way, M.D., Waynesville, N. C.

The term Sympathetic Ophthalmia is applied to that series of functional disturbances and destructive inflammations which sometimes develop in one eye from traumatisms of the opposite one. The liability of this affection to follow any traumatism of the eye, whether accidental or operative, its insidious character and intractable and uncertain course, and the necessity for the institution of prompt and decided remedial measures, render it one of the most important eye affections the practitioner is called upon to treat. As a cause of blindness it is a prolific one; nearly five per cent. of all cases being directly attributed to it, while of the preventable cases more than ten per cent. are assigned to it.

PATHOLOGY.

The pathology of traumatic sympathetic ophthalmia is yet involved in some degree of obscurity, and various theories as to the method of its development have been proposed. One of the earliest of these was that the morbific influence was transmitted from the diseased eye to the opposite one through the medium of the optic nerve and its interlacing fibres at the optic chiasm. The vascular system, the blood-vessels, the lymphatics, and even the blood itself, have each been regarded by different authorities as the channels of infection. Of recent years the ciliary nerves have been most generally regarded as the medium of transmission, but quite lately the older hypothesis of optic transmission has been revived. For anatomical reasons it does not seem probable that infection through the vascular system is likely to occur. The nervous supply of the ciliary body and iris is derived from the ciliary nerves (formed by branches of the third, fifth and sympathetic), and, as a rule, subject to very rare exceptions, the disease is set up by a perforating wound, with its consequent inflammation, in this region. Hence I am inclined to the opinion that improved modern methods of investigation will, when brought to bear on this affection, most likely establish the hypothesis of ciliary transmission.

Although its exact nature, as well as the precise method of its origin, is unknown; yet certain practical points in relation to its

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pathology are known which it will be well to consider. As before stated, this disease almost invariably has its origin in wounds of the ciliary region. This region, whose injury, or the presence near which of an inflammatory focus, or the lodgment within of a foreign body, is always followed by such serious disturbances, has earned for itself among oculists the title of the "danger zone." Penetrating wounds of this region are almost necessarily fatal to the eye receiving them, as well as greatly endangering the safety of its fellow by their extreme liability to excite sympathetic ophthalmia. This "zone" is sufficiently well outlined for all practical purposes by a circular segment of the eyeball three lines in width, encircling it immediately posterior to the cornea. The nervous and vascular supply of the ciliary region is abundant, and its importance in the nutrition of the surrounding structures great, consequently we can readily see how morbid processes instituted in this region should evince a tendency to invade other tissues. Lacerated wounds, wounds that heal slowly, the presence of a foreign body, the engagement of the iris or ciliary body between the lips of the scleral or corneal wound, as well as other conditions which render the occurrence of inflammatory action likely, as plastic or suppurative iridocyclitis, all tend to greatly increase the liability to sympathetic ophthalmia. Even a wound purely corneal, if complicated by a large anterior synechia which produces traction on the ciliary body, may cause it. To sum up our knowledge of the pathology and etiology of the disease, we arrive at the following conclusions: (1) The exciting eye has been the subject of a penetrating wound in its anterior part which has given rise to more or less plastic (very rarely purulent) inflammation of its ureal tract. (2) The optic and ciliary nerves of the exciting eye are sometimes the subject of inflammatory processes. (3) The irritation being propagated from the region most richly supplied by the ciliary nerves (the iris and ciliary body), they are probably the means of its transmission. (4) The first effects of the irritation are seen in the same structures of the sympathizing eye. (5) The presence of a foreign body within the eye is always to be viewed as a constant menace to the safety of its fellow, whether it be lodged in the ciliary region or not.

SYMPTOMATOLOGY.

The exciting eye always, when causing sympathetic irritation,

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shows evidences of inflammatory changes; it may be simply as an iritis or a cyclitis, as an irido-cyclitis or irido-choroiditis, or even a panophthalmitis. Great variation as to the amount of inflammatory action may exist; and it is well to be on our guard here, for an iritis which is painless and unattended with a noticeable degree of congestion may excite sympathetic trouble as readily as the most aggravated panophthalmitis. Generally speaking, ciliary congestion, photophobia, and ofttimes neuralgic pains are present in an eye, causing sympathetic irritation; though the latter symptom may be absent, as was exemplified in a case recently seen by myself in which there was an entire absence of pain, though irido-cystitis and traumatic cataract had supervened after the puncture of the cornea by a thorn.

Sympathetic symptoms most often make their appearance within from four to ten weeks subsequent to the receipt of the injury; rarely, if ever, earlier than two or three weeks, i. e., when time sufficient has elapsed for the development of inflammatory changes at the site of the injury. On the contrary, the disease may set in at any length of time, even many years, after the injury is inflicted, as in "a remarkable case related by Dr. Jacobi, in which a piece of iron imbedded in the eyeball occasioned no uneasiness for thirty years, when excessive pain occurred with sympathetic irritation in the other eye, necessitating the removal of the affected one."—*Gross*. The affection is seen at all ages, but is more likely to occur in children than in adults. As a rule symptoms of sympathetic irritation are present before sympathetic ophthalmia develops itself. These prodromata may exist in varying degree for a few days, or even weeks or months, before the disease is inaugurated, or they may subside without ophthalmia appearing; finally, sympathetic ophthalmia may be, and often is, ushered in suddenly without any premonitory symptoms.

The eye laboring under sympathetic irritation is, in popular parlance, "weak" or "irritable"; intolerance of light, lachrymation and deficient powers of accommodation, so that continued vision for near objects is painful or impossible, are present. The ciliary muscle seems liable to give way suddenly for a short time, the patient complaining that near objects now and then become misty and undistinguishable for a time. Temporary suspension of retinal function, indicated subjectively by darkening of sight, sometimes

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occurs, while other cases show a more lasting defect of vision without any ophthalmoscopic changes. Neuralgia of the ophthalmic division of the fifth is common. These functional disturbances may recur again and again with varying degrees of severity, sometimes lasting for days or weeks, and finally cease without inducing structural changes. The disease presents types varying from cases that are acute and violent and running a well-marked course, to those so insidious as to remain undiscovered until far advanced. When fully developed, sympathetic ophthalmia is essentially an irido-cyclitis or an irido-choroiditis; the visible alterations being those of iritis, with rapid formation of strong and extensive synechia. In addition to tenderness on pressure in the ciliary region, a dusky tint of ciliary congestion, with marked engorgement of the vessels, marked thickening and muddiness of the iris, and the anterior chamber becoming shallow, we also note among its chief early peculiarities the appearance of small opaque dots scattered over the whole area of the posterior elastic lamina of the cornea. The outlines of these dots are sharply defined, the large ones looking like minute globules of fat, and the small ones like fine particles of grey sand. The use of a small hand lens will aid in their detection. If an ophthalmoscopic examination is made, the vitreous is usually found clouded with floating opacities and neuro-retinitis is occasionally present. Small opaque dots and later on a generally diffused opacity of the lens is present in many cases. In all cases the intra-ocular tension is increased, the eye becoming glaucomatous. In acute cases of marked severity there is much pain, tenderness on pressure, photophobia, and the iris is changed in color to a dingy yellow or yellowish-brown tint. Ultimately, in severe cases, the eye may either shrink and become atrophied, or else a glaucomatous condition may be set up, with thinning and bulging of the sclerotic anteriorly, diffuse posterior synechia and secondary cataract.

PROGNOSIS.

When once set up, the disease is self-maintaining and usually runs a prolonged and relapsing course, extending over many months, or perhaps a year or two. In some cases of sympathetic irritation where structural lesions are not induced, the eye is rendered, for all practical purposes, useless, thus constituting what Dandess terms sympathetic neurosis. In a few cases of very mild type a good

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recovery eventually takes place, but the large majority of cases terminate in blindness; consequently our prognosis, even in the mildest cases, should always be guarded.

DIAGNOSIS.

The diagnosis of the affection is obvious, and space here need not be occupied in descanting on it.

TREATMENT.

The treatment of traumatic sympathetic ophthalmia after it has developed is, of course, important, and though often unsatisfactory, is always productive of good. But the measure above all others to be adopted is that of prophylaxis, and perhaps in no department of practical medicine does the old adage, "An ounce of preventive," etc., hold true with more force than here. Prophylaxis includes the proper care of the primarily injured eye from the time of the injury as well as later on. As regards the management of the injured eye, much will depend on the stage of the disorder, the extent and nature of the injury, and the amount of vision possessed by the wounded organ. Given a case where an injury has been recently sustained, and a fair degree of visual power remains, with no symptoms of irritation present. Here we would remove any foreign body that may be present, and if no immediate violent symptoms threaten, adopt an expectant plan of treatment, by placing the injured organ in the best possible way of healing, by the removal of all sources of irritation, the avoidance of light, the application of cold compresses, frequently repeated, general antiphlogistic treatment, and watching the opposite eye meanwhile for the slightest symptoms of sympathetic trouble; always remembering that when once it is set up we can do but little to modify the course or termination of sympathetic ophthalmia. But if the nature of the lesion be such that blindness, either as an immediate or a subsequent result from inflammation, have supervened in the injured organ, then we have but one course to pursue, and that is to promptly resort to enucleation of the injured organ. Especially is enucleation urgently demanded when the blind eye is already tender or irritable, or liable to become so; when it contains a foreign body; when it has been lost as the result of traumatism, or when blind from disease of the anterior segment of the globe; and finally, when,

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though not blind, the eye is so severely injured in the ciliary region as to preclude the possibility of retention of vision. Enucleation of a blind eye is also advisable as a prophylactic measure when there exists evidences of a past iritis with a shrunken globe, whether it has been injured or not. If the injured eye, though irritable and liable to cause sympathetic trouble, still retains more or less visual power, then we have presented a state of things demanding skill and judgment in their management. In such a case the date of the injury, the exact site of the wound, its probable depth, if healed, whether with puckering edges or not, the evidences of hæmorrhage and the condition of the lens, should all receive the most careful attention. Sympathetic irritation may supervene within a few hours aft r the receipt of an injury, but sympathetic ophthalmia is rarely inaugurated earlier than a few weeks afterward; hence we may, if we see the case early, adopt with propriety an expectant plan of treatment.

One point to be insisted on in the tr atment of all ocular traumatisms, and one from the neglect of which I have seen the most disastrous results follow, is this: always, when trying to save the injured eye, insist upon the complete and prolonged rest of the patient in a darkened room as long as the slightest evidence of irritation be present.

So much for prophylaxis. If sympathetic opht almia have been called into activity, then the field of our therapeutic endeavor is narrowed, for we can do very little in retarding or ameliorating its course. While the advantages to be derived from such a course are slender, yet, in accordance with a well-known therapeutic law, it the exciting ey be blind, or so seriously damaged as to be practically use ess, its enucleation should be res rted to at once. If the exciting eye retains some vision at the time of the occurrence of sym pathetic ophthalmia, the course to be pursued is more uncertain, for it has occasionally happened under these circumstances that the primarily injured eye has in the end proved the more useful of the two. When only a moderate degree of inflammation is present, with or without traumatic or secondary cataract, and vision proportionate to the state of the lens, we must not resort to enucleation, but treat the eye most carefully, for ultimately it might be the better of the two. As for the treatment of the sympathizing eye, the measures to be adopted are perfect rest and quiet in a darkened room, with the eyes bandaged and the free use of atropine, as in other forms of iritis. Iridectomy at an early period, as

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well as sclerotomy, have been advised by some, but I cannot see the probability of either operation being of any material advantage, and think it much preferable to wait until the subsidence of inflammatory action, and, then, if necessary, perform an iridectomy and extract the lens. Mercury is advised in this, as in other forms of iritis, and is probably of some utility if pushed far enough. Appropriate constitutional treatment should be given. In comparatively mild cases of sympathetic neurosis division of the ciliary nerves has been successfully practiced by Meyer and others. As substitutes for enucleation Von Græffe has suggested the formation of a seton through the vitreous. Optico-ciliary neurectomy is advised by White, Wayes and others, while Schneigger prefers exenteration. While thorough antisepsis in operating will lessen the suppuration and hasten the separative processes after optico-ciliary neurectomy; and the recent successful use, by Mr. Keall, of hollow silver balls as substitutes for the evacuated vitreous in exenteration, has removed the chief objections to these procedures, yet I do not think they are so generally useful, or will they be at all likely to dethrone the older operation from its place in popular professional favor. In performing enucleation, if proper care be observed, the ends of the severed muscles, with the conjunctiva, may be formed into a movable and very serviceable pad at the bottom of the orbital cavity, which will give to the artificial eye a considerable degree of mobility. The mortality attending enucleation has been urged as an objection to it, and as an argument in favor of the newer procedures. So far as I am able to find there are from 1863 to 1887 only thirty deaths recorded from the operation, while optico-ciliary neurectomy has already four deaths attributed to it.

In conclusion, it should not be forgotten that traumatic sympathetic ophthalmia may develop itself after a period of several weeks subsequent to enucleation of the injured eye. Occurring under these circumstances rest and atropia, as indicated above, are to be used during the inflammatory period, and afterwards the question of operative procedure will be determined as under other circumstances.

BACTERIA IN ICE—The ice in New York has recently been examined by Dr. Prudden, who claims to have found twenty thousand living bacteria in a cubic centimeter of ice.—*Journal of Reconstructive*

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OPENING OF THE ANATOMY HALL AT THE UNIVERSITY OF VIRGINIA, WITH AN ADDRESS BY DR. PAUL B. BARRINGER, OF DAVIDSON COLLEGE, N. C.

[Special Correspondence.]

RICHMOND, VA., October 25, 1887.

MESSRS. EDITORS :—The members of the medical class and many others have been looking forward to this day with much interest, for it was understood that to-day the new Anatomy Hall would be opened. It will be remembered by many of your readers that, during the last session, the old hall was rendered untenable by fire, and it became necessary to erect a new one, the plans of which were left to the Professor of Anatomy, Dr. Towles; and they were made and carried out in a manner to insure the greatest comfort and convenience.

Only for the last few days have the class known that the regular lecture was to be suspended to give place to a formal opening, and that in no wise detracted from the interest they felt in the occasion.

Although we have as yet experienced no cold weather, this day (25th of October, 1887) dawned upon the University in a cold, drizzly rain, which, about 9 o'clock, changed into snow and sleet. Some of the students had the temerity to suggest that it was the fact of *Dr. Towles giving a holiday* which occasioned this phenomenon on the part of the elements.

Long before the appointed time the hall began to fill, and when the orator arrived there was a large audience to greet him with a hearty cheer. The "Meds" were out in force, and there were many others, including the greater part of the Faculty.

Dr. Towles, in introducing Dr. Barringer, said :

"This is an occasion of profound interest to me, and, I have no doubt, to each one of you. It has been deemed proper that some expression should be given to the feelings which arise on the opening of this new hall, which the generosity of the Faculty has given us. With this end in view, we have sought the services of a distinguished gentleman from a neighboring State, who has kindly consented to forsake his arduous and important duties at home that he might come and serve us here to-day. He has come to voice the memories and sentiments that are common to us all at this time.

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"Gentlemen, I have the honor of introducing to you Dr. Paul B. Barringer, of North Carolina."

Dr. Barringer arose, and, when a cessation of the applause which greeted him permitted, delivered the following timely and instructive address:

A HISTORY OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF VIRGINIA—ITS SYSTEM OF EDUCATION AND ITS RESULTS—BY DR. P. B. BARRINGER.

Mr. Chairman, Professors and Students:

It was the custom with certain tribes of American Indians in the earlier days of this Continent, whenever they established a village, to erect a mound and place thereon a pile of stones, one for each lodge in the village, and to celebrate around this monument a feast, at which the medicine-man of the tribe recounted the history, recalled the traditions and enumerated the past glories of their race. In this way there could in after years be traced, by these monuments, the rise and fall, the history of their tribe. With this precedent before me, then, it seemed to me that at the dedication of this new monument to the growth and progress of our *Alma Mater*, that I, as the medicine-man of the occasion, could do nothing more appropriate than to recall the early history, recount the traditions and glories of this venerable school of medicine—to show you around this new monumental pile how, from a small beginning, in spite of the reverses of our land, the jealousy of rivals and the calumny of foes, it has developed and grown, till to-day, after more than sixty years of vigorous growth, it stands in the front rank of medical progress, with a history of success with which few can compare and which none can surpass. Let us, then, review the early history of this Institution of which it is a part, and see with what great care and by what great minds its youthful form was moulded and its early course directed, that it should have been successful in the fulfilment of so many hopes.

On the first day of August, 1818, there met at Rock Fish Gap, on the Blue Ridge, the Commissioners appointed by the Virginia Legislature to draft plans and specifications for an Institution of higher education for the Old Dominion, to be called the "University of Virginia."

As if in anticipation of the subsequent influence to be exerted by

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this Institution, not only upon the State, but upon the nation at large, we find the men composing this Commission to be men, not merely of local, but of national reputation and renown. Heading the list with the names of three Presidents of the United States, Mr. Jefferson, Mr. Madison and Mr. Monroe, in the order of their tenure of office. The latter had forsaken the duties and cares of the presidential chair, which he then filled, to be present at this meeting. But, in spite of his marked talents and his present official dignity, it was to Mr. Jefferson that the eyes of all were turned as the personal embodiment of the spirit of this cause. Already, in the watchful care over this trust, did he give a forecast of that continued parental solicitude that gave him in the end the well-deserved right to claim for himself the title of Father of the University of Virginia.

The first business of the Comissioners was to fix upon a suitable site for the University. The names of three places were proposed, Staunton, in the county of Augusta; Lexington, in the county of Roxbridge, and Central College, in this county. Each had its friends, and the result was in doubt till Mr. Jefferson, with other arguments, produced the names of a long list of octogenarians living in this neighborhood. That turned the scale in favor of its present site, and time has but added to this endorsement of the healthfulness and salubrity of this locality. As a further evidence of the care and thoroughness with which these plans had been previously canvassed, the University, as it stands to-day, in both architectural design and system of education, represents no material departure from the plan adopted at Rock Fish Gap. The system of instruction, however, interests us henceforth only as related to the Medical School. Suffice it to say that, after six years spent in the erection of buildings and the perfection of plans, the University was thrown open to students on March 7th, 1825, and went to work with but forty students. This number, however, soon grew, and by the end of the term was quadrupled. The School of Anatomy and Medicine was the modest title applied to the single school which has since developed into the Medical Department of the University of Virginia. This chair was then confided wholly and solely to the care of one professor, Dr. Robley Dunglison, of England.

Before proceeding further to the consideration of this illustrious name, in order to appreciate the benefits that even a school of this

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size offered, let us turn aside for a moment to view the condition of the profession in the United States at this time, more especially the profession in the Southern States. There were at this time schools of medicine at Boston, New Haven, Hanover, New York, Philadelphia and Baltimore, all, as you will observe, north of Mason and Dixon's Line. Not only was this true, but except for the seaboard cities, the difficulties of travel and the long delays in communication rendered these schools but little less than foreign to the States of the extreme South. In a catalogue of the Boston School of Medicine of this date (1824) I find among 110 students the names of but two Southern men, and they were both from Charleston. The above condition of isolation, coupled with sectional animosities, already beginning to exert themselves, caused the above-named schools to be but poorly patronized by students from the South, though Philadelphia and Baltimore were more patronized than Boston. London was the medical *Mecca* of that day, and the more ambitious young men of the South went there, and upon their return found little difficulty in building up local schools of considerable size. Such were the schools of Dr. ———, in this State, and that of Dr. Harris, in North Carolina.

Under these conditions, you can readily see what an influence a medical school, under the auspices of a University of broad and liberal culture, would exert.

The foregoing facts also, no doubt, in connection with Mr. Jefferson's knowledge and appreciation of the outside world, influenced him in selecting as the professor of this school an Englishman, in the person of Dr. Dunglison.

Dr. Robley Dunglison was a young man, not more than twenty-six years of age, but in the land of his nativity he had already gained a reputation, and as a writer in the *London Medical Intelligencer*, of which he was editor, he was already beginning to give promise of those high literary attainments which ultimately made him the first medical author of his day. Even at this time he was no ordinary man—being a man of broad views, wide general education, and, above all, wonderful energy and versatility. One would have thought that to have fulfilled all the duties pertaining to his chair, in addition to his official duties as Chairman of the Faculty, would have engaged the entire time of any one man. But while here engaged in his multifarious duties, we see him, in conjunction

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with Prof. George Long, of the University, editing *A Study of Roman and Greek Geography.*

This evidence of wide classical training was subsequently signally shown in the production of his *Medical Dictionary*, which is, even at this day, the best work of its kind in the language.

Such culture could not fail to attract, and in 1827, within two years after the opening of the University, in compliance with a generally expressed demand, what had previously been but a single school, was enlarged into a department. And thus we find that in October, 1827, just sixty years ago, that the life, history and sphere of usefulness of this illustrious School of Medicine began, with Dr. Dunglison as chief. And here, gentlemen, let me say that to a school, whose pride has ever been that its diploma represents a fixed standard of general scholarship, in addition to medical knowledge, it should be a matter of just pride and infinite satisfaction that its bark was first launched and guided on its course to success by the man whose name represents, above all others, that which is broad and classical is American medicine.

From that day till the present, if we except one dark year of the war, it has, term after term, and year after year, sent forth its graduates as "missionaries in the cause of health; soldiers, and, if need be, martyrs, in the unending battle with disease and its cause."

We have not time to follow out here the full record of the changes which the hand of time has wrought in the professional corps of this old medical school, or to pay aught but a general tribute to the memory of her devoted dead. So, having given in detail the cause and circumstances of her beginning and the prophetic significance of the greatness of her founder, I will now pass on to consider certain peculiarities of her educational system left as legacies by her founders. These have, from their marked variance from those of similar institutions in the land, caused much criticism and much comment. There are not a few, however, who consider them to have been the main cause of her wonderful success. I allude to her location under the wings of her fostering mother, to her peculiarly long course of study for a medical school, and to her simple, but incomparable, standard of requirements for graduation.

At various times in the history of this department its removal to some larger city has been urged as necessary to keep pace with other

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institutions of similar character in the land. Most wisely, in my opinion, this has not been done.

We have here what, perhaps, cannot be found elsewhere in the United States—a University of the Arts and Sciences, combining schools of general Literature and Science with those of Law and Medicine. Well supplied with halls, museums and libraries, and with the general paraphernalia of college equipment. Under similar environment, similar management, and, above all, imbued with a similar spirit, an *esprit du corps* that wealth cannot purchase or brains alone create. A distinctive corporate spirit that is peculiar to educational centers of this kind, where all the branches of useful knowledge and elements of a finished education are brought together, that is not to be found in the isolated, individual schools. The various branches, when thus apposed, all tend to emulate, illustrate and adorn each other, and (when) if separated, but a small part of the vital spirit goes with the dismembered part. For learning is not an inanimate thing; it is a living body; its different members belong together as parts of a coördinated whole, and cannot be drawn and quartered with the expectation that they will live. We should be willing to forego many of the advantages to be found elsewhere, and to make all needful sacrifices to keep this department here.

Of late it is often deplored that medicine is ceasing to be one of the broad professions; that its range of thought is being daily more narrowed to the mere limits to technical study. If this be true, and I fear that it is, its reason is assuredly to be found in the narrowing influence of isolated schools.

But does this department suffer by its absence from the larger cities? Does not the widened horizon of general culture more than compensate for the comparative insignificance of the clinical advantages here to be found, as compared with those of a great city? This opens up a wide field of discussion; one far too wide for a paper of this sort; but a few points may be broadly put. No college or department of medicine, with the short time of service required for a degree in America, whatever may be its clinical advantages, can turn out a finished practitioner. I doubt not that even if the present term of service were doubled, the result would be the same. It is only when you come face to face with disease, alone and unaided, that the intellectual faculties are quickened to

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the extent that their tension puts its lasting impress upon the mind and those moral qualities are engendered which go to make up the practitioner. In the dread contest with a foe whose insidious approach is never heralded, whose panoply of war is as variable as the devices of the devil, and whose mode of action is ever influenced by conditions and surroundings which no man can gauge, to meet a foe of this kind, which is better, a short training in the use of those arms usually attributed to him, or a system of general medical gymnastics that sends forth its athletes prepared for all emergencies, confident and valiant. It is here, gentlemen, that our old *Alma Mater* stands supreme. Making the known, firmly established fundamental principles of medical science a specialty, her students are prepared to reap the full benefit of clinical advantages. Clinical demonstration with such preparation can be understood, and whether received by the student here or at the bedside of his first patient, it will make a lasting impression. I do not disclaim the benefits of clinical instruction and heartily endorse the action of your professors in establishing the new dispensary. An abundance of clinical material is of inestimable advantage, if properly used. There can be no denial of this. Such institutions as the Past-Graduate School of New York and other cities, where clinical instruction alone is used, have been of value beyond measure to the medical profession of the land. But with the results before us of some of the other colleges whose clinical instruction is abounding, may well cause us to ask, Is this all that is necessary? By no means. Medicine is a science, and should be taught as a science. The art is but her handmaiden. The latter should always give precedence to the former. The great mistake of most schools is that the art is nurtured to the detriment of the science. To such an extent has this been carried that in one of the best known schools of the land they give to first-course students and all seventeen hours a week for Clinics and but two for Physiology. This is sending them to seed most too soon.

But this is not the fault of America alone. It is the fault of the present medical world, if we except, perhaps, Germany. That this system of object-teaching, as we might call it, applied to medicine, can make successful practitioners, we see daily exemplified. But while to be a successful practitioner is an end devoutly to be desired, is it the chief end, as we say in the catechism, of a medical life? Are we to live and die in the utilization of a profession leaving

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nothing added to its advancement? Not something alone of technical skill, for heredity alone would in time accomplish this, but something in the line of which the medical world now looks most eagerly, something toward the line of the solution of the phenomena of every-day life, which leads to the solution of the cause of every-day death. Barring accidents, such discoveries must come from among those best armed with the knowledge now possessed in this line. If the history of German medicine shows anything, it shows this to be true. For deny it as we will, for the last decade the world has been but amplifying upon data obtained from Germany from men educated in just such schools as this. For in its method of teaching and in its many differences from the ordinary schools, it approaches more nearly to the German type. Now, what have been and what now are the peculiarities of this school, as distinguished from most American schools. First, we will mention the nine-month's session. The early fathers of this Institution, in their simplicity, could see no reason why it took less work and less study to become a physician than to become a lawyer or a preacher, and decreed that we should have six days a week for nine months and no Christmas. This is the longest term of continued medical study in the United States, and fully double the average term.

A second peculiar feature, as compared with other medical schools of this country, is that the professors devote their whole time to their duties as teachers and such professional duties as are required at the dispensary and hospital. This is not usual, even in the medical departments of universities. But here the bond of relationship of this school to its mother, being as great in reality as it is in the catalogue. No distinction is made in the duties of the professors.

But the feature of this school which departs most widely from the average American type is the feature relating to the requirements for graduation. Having a fixed and not a comparative standard of scholarship, the requirements for graduation are robbed of many of their ordinary formalities. There is no prescribed time of attendance, that, while tantalizing the ambitious, serves to cover the incapacity of the dullard and the shortcomings of the slothful; no theses, by which to measure, instead of literary qualifications, powers of hypothecation. These are wisely dispensed with.

But in the examination hall, within a given time, the student must here give evidence in writing of a certain standard of scientific and literary scholarship. And what is this standard? It is to attain a

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minimum of 80 per cent. upon the valuation of a series of written examinations covering the whole field of medical study; and, moreover, to show by composition and general expression educational acqu re-ments commensurate with the dignity of this venerable Institution.

A diploma of this kind represents something tangible. It is a certificate of good faith on the part of the donors and a representative of good work on the part of the recipient. Of the bearers of such diplomas it would be but just to expect something more than of the average medical graduate. I think we will find proof that our expectations have not been in vain. If the diamond is valuable not alone from its intrinsic beauty and worth, but from its rarity, in what esteem must be held the 616 diplomas only that have been given up to 1880 from among over 3,000 matriculates in this school since 1828! And remembering that there stood no barrier to the graduation of each and every one of these except the high standard of knowledge imposed, we appreciate the full value of its discriminating power. All honor to the early censors of this school who established and have maintained this high standard, unlowered even in the darkest days of the Department's need.

Is th re another school in the United States that can approach such a record? We throw down the gauntlet and challenge comparison. Of these 616 graduates no less than 43 are now, or have been, professors and teachers of medicine in the various medical schools of the land. Through what widening channels, then, must now the influence of this whole Medical Department be felt! Of all the places of honor and distinction open for competitive examination, without favor or bias, to the young medical men of the United States, there are none that require a higher standard of scientific scholarship than the medical corps of the United States Army and Navy. From first to last no less than 60 of the graduates of this school have been in this service, and, as if to show beyond cavil that though old in years, she is still youthful in vigor, between the years of 1870 and 1880 no less than 38 out 180 of the graduates of this school obtained entrance into this corps, with very few failures on the part of an applicant. From the official register of the Army and Navy for the year 1885 I find no less than 16 out of 57 Past-Assistant Surgeons in the Navy were University of Virginia men, while in the Army the graduates of this school were 14. When you know that there are usually ten men for each vacancy, and that they represent the flower of the young profes-

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sion of the land, you will appreciate what these figures mean. In the Confederate Army and Navy there were more than 250 of the graduates of this Institution. Of the two Surgeons-in-Chief of the Confederate States Army the first bore the diploma of this school and the other had been a student within its walls. Throughout the width and breadth of this broad land, from Maine to Texas, you will find them standing ever in the line of duty, leaders in the vanguard of progress.

With such traditions and with such a record before us, may we not, at the dedication of this new Anatomical Hall, by the renewal of our tribal allegiance and by our united efforts, so endeavor that it, with the march of time, the traditional New Zealander should ever ponder over the ruins of America, he shall never see aught here to belie the glorious history and never-staying progress of this noble Institution.

Col. Venable, the Chairman of the Faculty, said he deemed it but proper that a son of North Carolina should be invited to deliver the address on this occasion. He alluded in glowing terms to the firmness and devotion to duty that characterized the men of North Carolina in many hot conflicts in which the sons of both these States stood shoulder to shoulder; and eulogized the heroism of the surgeons she sent into the field in their unflinching adherence to duty, whether on battle-field or in hospital. "I move, then," he said, "a rising vote of thanks to Dr. Barringer, and let it be given in a hearty cheer." And he could not have expected one more rousing than that which burst forth from a hundred or more pairs of lusty lungs.

The "Meds" are seen everywhere this year, the class numbering upwards of eighty, and of these there are sixteen who belong to

NORTH CAROLINA.

ACETANILID IN TYPHOID FEVER.—Dr. J. Solis-Cohen, in a recently published article, expresses the opinion that acetanilid is much more apt to produce collapse in typhoid fever than antipyrin. In doses of seven and a half grains it has reduced evening temperature from 105° to 96.5°, with a return wave to 102° and more, by early morning. Three grains are in some instances quite as effective as larger doses, while much less dangerous. Physicians should see their patients within an hour or two after administration of the first dose in order to determine by results the propriety for its repetition.—*Medical Standard.*

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SELECTED PAPERS.

UTILITY OF SCIENTIFIC WORK IN PRACTICE.

The following extract is from an address by Sir James Paget, at the opening session of Owens College. This great writer and teacher never fails to inculcate TRUTH as the prerequisite of all study and observation. Long may he live to lead the profession of the world:

"Medicine and surgery are eminently a science of observation; deductions from facts are always unsafe; I believe that they have done far more harm than good; and, for the most part, when sufficient facts have been collected and arranged, the general conclusions that may justly be drawn from them are nearly manifest. The main thing for progress and for self-improvement is accurate observation. Some seem to think it easy to observe accurately—they cannot doubt, as they say, the evidence of their senses. There are few greater fallacies. In scientific studies the evidence of the senses needs as much cross-examination as any evidence given in a criminal trial. Self cross-examination it may be, but it must be steady and severe. For by accurate observation we must mean not the mere exercise of the senses, not the mere seeing, or hearing, or touching of a thing, with some levity of thinking about it—we must not mean even the keenest use of the eye cultivated in microscopic work, or of the ear hearing sounds that to the uneducated sense would be inaudible, or the use of the finger with the most refined detective touch. All these higher powers of the senses you must acquire by careful study and practice, and you must learn to exercise them with all the attention with which a strong will can direct and watch them; but even all this, difficult as it is, is only a part of scientific observation. This must include, besides, an habitual constant watchfulness, the taking notice of all the conditions in which objects or events are found; their occurrence, their sequences, their seeming mutual relations, all their variations. To do this, and to do it again and again, and with constant care, whether it be in things occurring naturally or in experiments—to do this accurately and always is really very difficult. A few seem to

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have the power naturally; there are some born naturalists, some born physicists; you have had some here; but in nearly all men, and you may safely believe, in yourselves, the power to observe accurately needs careful self-training, self-suspicion and self-discipline.

"If accurate observation were easy, how could we explain the oversights and the errors of which the evidences abound in the whole history of medicine, and which, I think, everyone could find in a retrospect of his own work? Look at the history of discoveries. As a general rule, every discovery of things that can be observed tells of previous oversight or want of observation. Some discoveries, indeed, have followed quickly on the invention of improved means of observation, or on the advancement of knowledge clearing away some previous obscurities. These, it may fairly be said, could not have been made much sooner; but of far more it may certainly be said that the discoveries in each generation are evidences of the oversights, the defective or erroneous observations of men of previous times—even of the best of them. Take some leading instances. All the facts which enabled Jenner to discover vaccination were within the range of his predecessors; they saw and heard of them, but they did not observe them; they all overlooked them, except the one farmer who vaccinated his children, but could not persuade others to follow his example. All the sounds on which Laennic established his system of auscultation were within the hearing of previous generations and of his elder contemporaries; many had heard them, but they did not listen as he did, and they did not observe the conditions in which the different sounds occurred—how each coincided with some diseased process or change of structure in the heart or lungs. All the facts by which Hunter was guided to his operation for aneurysm might have been obvious to other surgeons of his own and lately previous times. They did see them; they did not carefully observe them. I need not multiply examples. Look at any discovery of this or last year, and think whether it might not have been made in the previous year or some years ago; and when you find that it might have been and was not, though men of excellent ability were within reach of it, then you may feel that accurate and complete observation is a really difficult thing, and that for the fulfilment of your duty, whether to science

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or to your patients, you must cultivate the power of searching and observing with all your might.

"I have been more than usually impressed with these thoughts after lately looking through many of my old case-books, and finding in them evidences of more oversights and errors of observation than I had imagined myself guilty of; and though I might console myself by the examples of the distinguished men who did not discover vaccination or the use of auscultation, and did not improve the treatment of aneurysm, yet it made me think that, as an act of penitence I ought to try to make amends by warning some who are beginning such work as I have so failed in. For instance, among my records are those of nearly all the *post mortem* examinations which I made nearly fifty years ago, when I was Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital. They are full and tedious; but the evidences of oversight and of errors in observation are many. I find, for example, complete and full records of the examinations of typhoid ulcers of the intestines; and they are regarded as illustrations of the typhus fever then supposed to be prevailing. Many others were thinking the same, many had thought so years and years before; but about the same time Sir William Jenner not only saw such ulcers, but accurately observed them, and he observed all the conditions with which they alone coincided, and he proved that they were characteristic of a fever essentially different from typhus. In the same records I find long descriptions of the morbid changes in different forms of venous and capillary embolism, but I wholly overlooked and missed their meaning till it was discovered by Virchow and my own pupil Kirkes, and by others more observant than myself. I saw all these things; they accurately observed them; they studied the associated facts; and embolism, which had been destroying healths and lives for ages in secret, was at last discovered.

"Do not let me seem to suggest that I deserve credit for having seen these and other like things as if for discoveries for which others have been honored. Far from this, these are evidences of that very oversight which I want to persuade you to avoid. It is a shame rather than honor to have seen a thing and not observed it; to have been within reach of a scientific truth and not have grasped it.

"But, it may be said, these are examples of discoveries made in

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large fields of observation, and needing long and careful research among many cases; these are not within reach in ordinary practice. Look, then, at some simpler instances. Not a year passes but some one describes a disease of which we had no previous record—a spondylitis deformans, or some new form of myxœdema, an osteitis deformans, or some new manifestation of tubercle or cancer; it matters not what—a novelty. And the first case is thought unique, strange, and by some, not much worth thinking of; but soon similar cafes are found here and there, and the new disease seems hardly rare. I will not say that no new diseases ever appear. I have long maintained that they do, but they do not come among us on a sudden, and we may be certain, whenever a case of a new disease is observed, it is not the first that has occurred or the only one existing; similar cases have been overlooked, they have been within sight and have not been observed. And without doubt there are similar examples of oversight among us still. For example, a distinguished pathologist in Paris has lately described a disease which he names '*acromégalie*,' with singular enlargement of the bones of the face and hands and feet. I cannot suppose that this disease is limited to France; it must, I think, be among us as well; but, so far as I know, no Englishman has yet observed it. Well, I blame no one unless it be myself; I want only to show by facts like these that it is very difficult to observe accurately, and that if you are to do your whole duty, either to your patients or to science, you must now and always study and practice the right methods of scientific observation.

"I wish that the arguments for this were only in the oversights, the mere defects of observation. Unhappily, the errors illustrated in all the history of medicine, and in much that is still in progress, are very numerous too. Facts, when not quite overlooked, are too often seen and recorded erroneously. I would not speak of such errors without a confession of having contributed to them, or without the fair motive of wishing to urge the best means for avoiding the like of them. For remember that many of them were made, or are being made, by men as honest as we are, or ought to be, and fairly in the pursuit of knowledge.

"It would need some volumes to relate all the sources of error in scientific observation. I will mention only one, for I think it is the most frequent, and I should like you to be always watching against

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it. It is the habit that we have of inserting some of our own, something of our beliefs, of our expectations, nay, even of our wishes, into that which we think or say that we observe. We expect facts or events to agree with what we believe that we know, and we make light of the differences and exaggerate the likenesses; we take no thought of what we call accidental exceptions; we think them unmeaning—as if anything in Nature could be without meaning—and we do not half observe them. In philosophy we can separate things from thoughts, the object from the subject; but in ourselves and in ordinary life they are mingled in every act of consciousness and reflection; and sometimes it is only by careful self-analysis and by habit studiously gained that we can separate them and observe simply and accurately."—*British Medical Journal.*

THE USE OF VERATRUM VIRIDE IN KINGS COUNTY, NEW YORK; WITH ESPECIAL REFERENCE TO ITS CONTROL OF PUERPERAL CONVULSIONS.

By J. D. Rushmore, M.D., Brooklyn, N. Y. Read before the Kings County Medical Association, June 7, 1887.

[From advanced sheets of Gaillard's Medical Journal.]

[We present to our readers as much of this valuable symposium on Veratrum Viride as we can make room for, and commend it to them as being of unusual quality.]

Both the favorable and the unfavorable estimates put upon veratrum viride are fairly shown by the following extracts from Fordyce Barker on "Puerperal Diseases," and from "The National Dispensatory." Barker says: "We have, however, two agents in our materia medica which act specifically as vascular sedatives. These are aconite and veratrum viride. Simply as a vascular sedative, I greatly prefer the veratrum viride, and I think this is the fact with all who have any considerable experience in the use of both, but I must tell you that this class probably constitute but a small minority in the profession. I meet with many who have a great fear of the veratrum viride, because it sometimes produces the

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appearance of dangerous collapse. But this is a very temporary condition, which, so far as I have heard, has never terminated disastrously. The appearance of one who has taken too much veratrum viride is almost precisely like that produced by tobacco in those unaccustomed to its use; I have often seen this, but now, when I do, it causes no alarm, as I am sure that the effects will soon pass off. There is no objection to assisting reaction in such cases by carbonate of ammonia or small quantities of some alcoholic stimulant. In a small percentage of cases it is quite liable to cause nausea, but this is readily counteracted by giving it in combination with the tincture of ginger. As to its positive effects, I will say that you can, by it, absolutely and certainly control the frequency of the pulse of inflammation and irritation. Stillé says in "The National Dispensatory," in speaking of the medicinal uses of veratrum viride: "The greater number of reports which have been published concerning the medicinal uses of green veratrum are, unfortunately, not only deficient in the details on which a judgment could securely rest, but exhibit great ignorance of the natural history of disease and of the relations of medicines to its cure. The only conclusions to be drawn from a critical study of the mass of conflicting evidence respecting its use in the diseases referred to ("sthenic and asthenic diseases, inflammation and fevers") is that the patients would have been better off, not only without its use, but also without that of the medicines associated with it. Green veratrum reduces the patient to a state of such wretchedness that he is unable to take food, or to digest it if he ate it, or even to find energy enough to cling to that last refuge of sufferers—hope."

In regard to the danger incident to the administration of veratrum viride, it may be stated that Stillé, in his "Therapeutics and Materia Medica," reports one death of a child eighteen months old, suffering from catarrh, after taking a single dose of thirty-five drops of the tincture, and another case when death took place after sixteen drops of Norwood's tincture in three-hour intervals in a patient "suffering from hepatic distress accompanied by occasional vomiting of bilious matter."

The following cases of poisoning by veratrum viride, with two deaths, are reported in this connection from records in the Surgeon General's office at Washington.

Female with bronchitis—general condition good, took undiluted,

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on empty stomach, Norwood's tinct. veratrum viride. Severe characteristic poison symptom developed in twenty minutes. Nausea, but no vomiting. Free emesis by mustard. Dorsal-decubitus. Brandy, friction, gr. 1–4 morph. sulph. Slight improvement in pulse, but patient suddenly exclaimed, "I cannot breathe," and died. R. W. Walmsley in *N. O. Med. and Surg. Journal*, 1884–5.

H. C——— took a drachm (probably). Speechless and powerless for several hours. No treatment mentioned. Recovery. J. B. Buckingham in *Amer. Jour. of Med. Sciences*, October, 1865.

Lawyer took same dose as above. In half hour speechless; incessant vomiting and retching. Pulse hardly perceptible at wrist. Administered tinct. opii, vomiting ceased, pulse increased and recovery prompt. J. B. Buckingham. Ibid.

Negro girl, æt 16, took Norwood's tinct. One hour after, nausea, no vomiting, pulse 40, very feeble. Emetic acted. Mustard externally, whiskey internally. No benefit. Pulse down to 30. Electricity employed with some immediate effect on pulse, but could not withdraw electricity until end of four hours. E. Mason in *Trans. Med. Assn. Alabama*, 1887.

Male, æt 30, took several doses (quantity not given) between 3 and 10 p. m. At 11:30 free emesis. Pulse about imperceptible—16 per minute; 1-2 gr. sulph. morph.; whiskey with gr. x. quin.; sulph. by rectum. Rapid recovery. J. S. Bailey in *N. O. Med. and Surg. Jour.*, 1877.

In cases of R. M. Kirk, one fatal, in *Med. and Surg. Reg., Philadelphia*, 1879, and one case reported by L. N. Hornitz, in *Philad. Med. Jour.*, 1883–4, are noted in above list of poison cases; but the details could not be found in the library of Academy of Medicine of New York, by Dr. J. K. Culkin, House Surgeon of the Brooklyn Eye and Ear Hospital, who kindly furnished for my use the above report of cases of poisoning by veratrum viride.

In order to learn to what extent veratrum viride was used by the profession of Brooklyn, personal inquiry at several of the old and large drug stores furnished such answers to the question, How much do you dispense of veratrum viride? the reply was, "Seldom." "Very little." "So very seldom that I cannot remember the last time," etc., etc.

The following cases of puerperal eclampsia, treated by veratrum viride, followed by a brief statement in regard to its use in general

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diseases, is submitted for your consideration and discussion. These cases, both puerperal and others, are taken from about 140 replies to the 636 circulars that were sent to the regular physicians in the country:

Dr. W. G. Russell—two cases; both post-partum; recovery; drug administered hypodermically, in from five to fifteen minims every fifteen to twenty minutes; pulse-beats diminished and convulsions controlled; no measures necessary to control nausea.

Dr. W. F. Swaim—one case died; primapara; seventh month of pregnancy, lower limbs and hands very œdematous; two convulsions before and twelve or fifteen after delivery; drachm doses hourly for three hours by the mouth; pulse reduced in frequency; convulsions continued; stomach unable to retain anything after third dose; no measures used to prevent nausea or vomiting.

Dr. T. M. Loyd—one case; ante-partum; one dose of ten or twelve minims Squibb's fluid extract hypodermically; reduced pulse to the forties in half an hour; chloroform used until delivered; two severe convulsions with tendency to return each time; chloroform was withdrawn, when veratrum was administered.

Dr. G. W. Cushing—two cases; post-partum; one recovery, one death; dose five to thirty drops; fluid extract (Squibb's), from fifteen minutes' to four-hour intervals by mouth and hypodermically; pulse promptly reduced and convulsions relieved; nothing necessary to relieve nausea; has seen no serious symptoms result from its use; it is quickly eliminated.

Dr. H. Enton—two cases; both ante-partum; recovery in each; dose twenty, fifteen and ten minims every fifteen minutes to two hours, by mouth, rectum or hypodermically; pulse became soft and slow; convulsions less frequent and severe; patients vomited to some extent; one primapara, one multipara; urine loaded with albumen in each.

Dr. W. H. Randolph—one ante-partum case; recovery; remedy given hypodermically; pulse below fifty; convulsions ceased; no treatment necessary for nausea.

Dr. J. E. Shroeder—two ante-partum; both recovered; dose fifteen, ten, and fifteen minims tincture half-hourly by mouth; pulse decreased; convulsions at wider intervals; no measures necessary to relieve nausea; chloroform used in one case, chloral and potas-

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sium bromide in the other. Delivery in an hour after last dose of veratrum, and convulsions ceased.

Dr. J. J. Terhune—four cases; two ante-partum, two post-partum; three recoveries; one death; twenty to forty minim doses every twenty minutes and upward—hypodermically; tincture always reduced pulse, and no convulsions occurred; pulse is below 90; no anti-emetics.

Dr. J. Corbin—one ante-partum; each recovered; five to ten minims fluid extract every half to one hour, hypodermically; pulse reduced and convulsions stopped; no anti-emetics.

Dr. J. Fred Moore—one ante-partum case; recovery; forty drops by the mouth every half hour until vomiting; pulse not recorded; subsiding of convulsions; no anti-emetic used; other agents had been employed before using veratrum; would use it again in inception of trouble to relieve cerebral engorgement.

Dr. Benjamin Edson—two ante-partum cases; one recovered; five minim doses by mouth; pulse lowered and convulsions ceased; one case died; fifteen minims hypodermically; little effect on pulse or convulsions; chloroform also used in this case; intervals of administration irregular in each case.

Dr. George A. Ostrander—one ante-partum case; died; drug given frequently by the mouth; pulse slowed; convulsions continued; no vomiting; case seen many years ago; has always been afraid of veratrum viride; prefers to use other remedies.

Dr. E. A. Lewis—two post partum cases; both recovered; dose twenty to thirty minims fluid extract, hypodermically, at regular intervals; pulse came down; convulsions ceased; no anti-emetics; one case apparently beyond hope, but recovered.

Dr. Wm. Browning—one ante-partum case; seen with another physician; drug used a day or two after phlebotomy; recovered.

Dr. J. E. Richardson—four cases; three ante-partum, one post-partum; one post-partum, two ante-partum cases recovered; the other died; dose four or five minims of tincture every two or three hours; in two cases hypodermically, in two by mouth and rectum; pulse reduced in force and frequency, and convulsions less severe and frequent; chloroform used; no trouble from nausea.

Dr. C. Fulda—two post-partum cases; both died; one to three drops of Norwood's tincture every half hour by mouth; pulse lowered; convulsions continued; no anti-emetics.

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Dr. Henry N. Read—one ante-partum case; death; five minims (U. S. P.) half-hourly by mouth; pulse lowered slightly; no effect on convulsions; no anti-emetics necessary; case fatal twenty-four hours after attack began; chloroform, morphia, bleeding had no effect.

Dr. T. P. Corbally—two ante-partum cases; one recovery, one death; dose ten minims, five minims, after ten hours, hypodermically; case of recovery albumen coma; case of death had extensive pulmonary œdema, and probably cerebral effusion.

Dr. H. E. Durner—one post-partum case; death; drug given by mouth; diminished rapidity of pulse, and convulsions slight; no anti-emetics.

Dr, Wm. Madden—two cases; one ante-partum, one post-partum; former recovered, latter died; dose five minims Norwood's tincture every fifteen minutes hypodermically; in ante-partum case pulse fell to forty; convulsions ceased after eighty minims had been used; no anti-emetics; the post-partum case complicated with epilepsy; chloroform used in each case.

Dr. J. D. Sullivan—two ante-partum cases; one recovery, one death; drug given hypodermically in five to ten minim doses, p. r. n., in half to two-hour intervals; pulse was reduced in frequency, and controlled convulsions for a time; suspension of drug relieved nausea. In first case, after doing well for ten days, convulsions recurred and death took place in a few hours. In second case pulse fell to sixty and induced vomiting and copious perspiration.

Dr. George R. Westbrook—two cases; one ante-partum, one post-partum; the former recovered, the latter died; dose ten minims tincture hourly, hypodermically; pulse reduced to sixty in case that died; convulsions not controlled. In second case pulse sixty-four; convulsions ceased after second dose; no vomiting in either case. In the case that recovered only two ounces of urine were excreted in twelve hours; about sixty per cent. albumen, which disappeared after five days; loss of vision for ten days; death by asphyxia in a convulsion in post-partum case.

Dr. George H. Parshall—two ante-partum cases; both recovered from convulsions, but died later; the first of pleurisy, after two weeks; the second pulmonary congestion, after three days; dose twenty to thirty drops Norwood's tincture; half-hour intervals by mouth; pulse reduced; convulsions ceased; no anti-emetics. In second case two doses given; pulse fell from 140 to 72; free perspiration; pulmonary

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œdema relieved; consciousness restored; weakness developed; pulse grew rapid; respiration rapid; lungs congested; death.

Dr. John H. Trent—two cases; post-partum; recovery; half teaspoonful of Squibb's fluid extract every two hours until relieved, given by mouth; convulsions soon ceased; pulse not noted; no anti-emetics.

Dr. E. W. Owen—several cases; recovery; dose two to four drops every hour or two by mouth; pulse slowed and temperature reduced; combined with aromatic spirits of ammonia to prevent nausea.

Dr. John Van Ness—during thirty-five years probably fifty cases; eight to ten per cent. of recoveries; dose two to four drops by mouth, often enough to keep pulse down to sixty; pulse and convulsions very satisfactorily effected; champagne and kumiss to relieve nausea.

Dr. F. W. Rockwell—has used it (veratrum viride) in a few cases, in the form of tincture and as recommended by Dr. Fearn, with excellent results; should use it again freely if other cases presented.

Dr. A. A. Shepherd—used it in half-drachm doses by mouth, or drachm doses by rectum until convulsions ceased; experience so satisfactory that he was almost lead to look upon veratrum viride as a sure antidote to the uræmic poison inducing puerperal convulsions; never felt that the tonic effect of the drug ever increased tendency to death

Dr. Frank Baldwin—saw it used in post-partum case (case of Dr. Corbin) with excellent results.

Dr. Benjamin Ayres—has not used it, venesection seldom disappointing him in suitable case.

Dr. J. F. Golding prefers to use chloral hydrate in puerperal eclampsia.

Dr. J. H. Barber—in post-partum case; recovery; 3 ss. dose by mouth every hour until half an ounce had been taken; convulsions ceased; pulse reduced; no anti-emetics.

Dr. Charles Jewett—twenty cases; sixteen ante-partum; two post-partum; one ante-partum and post-partum; one not noted. Three deaths; in ante-partum cases; in convulsive stage the other deaths were due in post-partum cases to pulmonary œdema; one case; several days after last convulsions ceased; none died of eclampsia in whom veratrum was used early (before eight or ten convulsions). Dose, ten to twenty minims, p. r. n., to hold pulse below sixty, given hypodermically; prompt reduction of pulse nearly to or below sixty,; no convulsions while pulse was below sixty; no attempt to prevent or arrest nausea or vomiting. In one or two cases in which twenty or thirty

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convulsions had occurred and the patient was moribund, veratrum failed to control the pulse.

Dr. W. H. Thayer—one ante-partum case; recovery; dose nearly one drachm; after a convulsion twenty-five drops of Squibb's fluid extract, which was almost immediately vomited; given by mouth; pulse reduced f om 120 to 60 in two and a half hours, and rose to 84 in four hours; convulsions at intervals of half an hour or more for five hours; two within an hour after administration of drug; none after that.

Dr. H. C. Rogers—three ante-partum cases; recovery in each; dose eight to ten minims, hypodermically, from one-half to ten hours; pulse reduced in strength and frequency; convulsions arrested; calomel in small doses to relieve nausea.

Dr. F. W. Wunderlich—one post-partum case; death; dose six drops every two hours until three doses were given; then the medicine, when intermitted; feeble and irregular pulse necessitated the discontinuance; convulsions not affected.

Dr. George H. Kuhn—five ante-partum cases; three recoveries; two deaths; in three convulsions were arrested; dose first every fifteen minutes, then thirty minims, hypodermically; in all cases pulse reduced; in fatal case chloroform was also given.

Dr. J. D. Rushmore—two post-partum cases; recovery in each. First case had only two convulsions following the eating of four boiled eggs. Pulse reduced to thirty-six by single dose (quantity not known) of Squibb's fluid extract, hypodermically; distressing retching relieved by brandy; kidneys not affected; probably any other emetic would have given relief with less discomfort. Second case, primapara; severe headache few hours after delivery, followed by four or five severe convulsions and total loss of sight for twelve hours; some œdema of limbs and albuminuria; fluid extract v.v. given by mouth at first, and afterwards hypodermically; kept pulse between fifty-five and sixty-five; no convulsions afterwards. Pulse sixty twelve hours after discontinuance of the drug; nausea not excessive.

Dr. J. Watt—six cases; two ante-partum; all recovered; dose ten to thirty grains, hypodermically and by mouth. When given hypodermically, only one convulsion followed; pulse kept below fifty-five; no anti-emetics.

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Dr. J. C. Hutchinson—verbal communication; one case apparently hopeless; fluid extract given; patient recovered.

Dr. S. Sherwall—verbal communication; one case; ante-partum case; recovery; six minims, hypodermically; one dose; recovery; blood-letting also employed.

The above forty-one reports furnish eighty-five cases of puerperal eclampsia that can be tabulated. Seven of these reports are general, and cannot, therefore, be given in detail. Of the above cases fifty-six were ante-partum and twenty post-partum. Of the whole number of cases sixty-five recovered and twenty died, a mortality of not quite thirty-one per cent. Of the ante-partum cases forty-three recovered and thirteen died, a mortality of thirty and one-quarter. Of the post-partum cases twenty-two recovered and seven died, a mortality of a little less than thirty-two per cent. An examination of the reports of fatal cases shows that in one case epilepsy was present; in another there was extensive pulmonary œdema and probable cerebral effusion; in another death took place in spite of use of venesection, chloroform, morphia and veratrum. In still another case pulse and convulsions were not affected by the drug, and chloroform was also employed. In one case the pulse was reduced to sixty, but the convulsion continued. The remaining cases where death took place seem to have been ordinary cases of puerperal eclampsia.

In the cases of recovery and death as well, the drug seems to have been given, with one or two exceptions, in moderate rather than heroic doses—five to twenty or thirty minims of tincture or Norwood's tincture or fluid extract, preferably, hypodermically or by the mouth, in intervals varying from twenty minutes to several hours. The testimony, with few exceptions, shows that the remedy will reduce the pulse in frequency and sometimes in force, and the effect can be maintained by careful administration of the drug. It is also a notable fact that the nausea and vomiting were not sufficiently urgent to require relief, although the medicine was given in moderately large doses, both by mouth and hypodermically. The fatal results could never be attributed to the remedy. The results of eclampsia have, until recent years, shown a mortality of about one death to three or four cases. In 1855 Barker found the mortality to be thirty-two per cent. in cases occurring before and during labor, and twenty-two per cent. in those after labor. While since

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that date the mortality has fallen to fourteen per cent. Dr. Phillip Grey (Hospital Report, 1870) reaches the same conclusion, and shows that the substitution of chloroform for indiscriminate bleeding is to be credited with the diminished mortality. In view of these facts not much can be claimed for veratrum viride as regards final results in cases reported in this paper.

Further and much more extended experience is needed before a reliable and discriminating judgment can be found in regard to the efficacy of veratrum viride in the treatment of puerperal eclampsia.

To Dr. Herbert Fearn, of Brooklyn, belongs the credit of having first introduced to the profession the use of veratrum viride in large doses in the treatment of puerperal eclampsia. This experience was reported to the Kings County Medical Society in 1869, and his paper on the subject was subsequently published in the *American Journal of Obstetrics*, etc., for May, 1871.

Veratrum viride seems to have been used by the physicians in Kings County, to some extent, in acute inflammatory and febrile affections, when the heart was sound; in early stage of disease, such as pneumonia, pleurisy, peritonitis, bronchitis, acute catarrh, orchitis, rheumatism, malarial fevers, also in aneurism, uræmic convulsions of Bright's disease, both acute and chronic, cardiac disease when the heart was not weak, ephemeral fever with high temperature, and in other conditions as an antipyretic; in neuralgia, puerperal mania, epilepsy, compression of brain, etc. In these cases the doses given is almost always a small or medium one, varying from one-fourth to three drops (minims sometimes specified) of fluid extract, or two, six or eight drops of tincture (Norwood's sometimes specified) generally given by the mouth; and no nausea or vomiting, with two or three exceptions, is mentioned as having occurred in any cases reported. In general diseases, when convulsive action is manifested, the preference is given for method suitable in puerperal convulsive cases—five to fifteen or twenty minims of fluid extract or tincture, hypodermically. A few reporters have had unsatisfactory experience in failing to get desired effect, or in over-action, sometimes of an alarming character, and given up the use of the drug and employ aconite in its place, or have used aconite from the beginning, and are disposed to stick to the use of a drug with which they are familiar from experience.

The following conclusions seem to be fairly deducible from the

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foregoing somewhat limited experience; that veratrum viride is employed by the profession in Kings County to a very limited extent; that, except in the treatment of puerperal convulsions, it is used in the method commonly recommended by the text books; that, in the management of puerperal eclampsia, it has been administered in large and sometimes heroic doses with no poisonous effects in most cases; and, where alarming symptoms have developed after its use, they have easily been relieved by usual remedies; that in health a large dose may produce both very alarming symptoms and death; that a tolerance of the drug is produced by vascular tension, common to many diseases; that it is a safe, certain and manageable vascular sedative; that, in order to control the convulsions of the puerperal state, it must be given in doses sufficiently large to bring and keep the pulse down to about sixty beats per minute, and that thus far it has given a mortality of thirty-one per cent.

DISCUSSION.

Dr. Jewett—The number of cases which I have treated by this means is twenty-one. I have used this measure in nearly every case that I have seen for the last few years, particularly for the purpose of demonstrating the value of this drug, and for this reason I have more confidence in this than in any other measure that I know of for this purpose. Most of these cases were cases which I have seen with other physicians, and many of them are doubtless included in the summary contained in the paper already presented. Of these twenty-one cases, six, I believe, died. That would make a mortality about as reported—about twenty-five per cent. to thirty per cent. There were only three cases which died directly or indirectly from the effects of the eclampsiac attacks, and the three out of the eighteen would make a mortality of about sixteen per cent., which is a lesser mortality than the average obtained by ordinary estimates. However, statistics are unsatisfactory, and especially so in these cases, for the reason that other treatment has been used in nearly every case. For example, chloroform, which is a valuable agent, was used in almost all these cases, and is undoubtedly entitled to a considerable degree of credit; but it cannot be used for any continued length of time, as it would be liable to lead to injurious effects. Other treatment has also been used in these cases, and it would therefore be hard to say how large a measure of credit belongs to the veratrum.

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But there are only two things in regard to veratrum viride I would like to state. In my experience in every case, with a single exception, the use of that drug has reduced the pulse promptly to about 60; it has been possible by the proper use of the drug in every case but one to bring the pulse below 60. That case was one in which the pulse could not be reduced below 100, and the eclampsic attacks could not be controlled. I have therefore come to regard this drug as a sheet-anchor, for the reason that I can rely on it implicitly in any ordinary case to bring the pulse below 60.

The preparation which I have used has been, with two or three exceptions, Norwood's extract. In regard to the dose, my experience leads me to think that the best method of administering the drug is in a fairly large dose at the start, in order to bring the patient promptly under its influence, and I have therefore given from 10 to 20 minims of the fluid extract as a beginning dose. The full effect of this dose will usually be developed within about thirty minutes, and then it may be repeated as may be required.

Another point in its administration which I think is equally important, is the necessity of giving it by the hypodermic method; it is ordinarily unreliable when given by the stomach, but you are quite certain, by the hypodermic method, of getting the full effect.

While, therefore, I hold in regard to the use of veratrum viride in eclampsia that, as it has been used with other agents, my experience is not conclusive as to the value of the drug altogether, I think it is conclusive enough as to the certainty with which we can control the patient's pulse.

In regard to the use of the drug in other cases, I have used it in a few cases of uræmia and with extremely satisfactory results. In those cases, however, the drug is used in a much smaller dose. In one of those cases there was a profound collapse; such that the by-standers supposed that the child was dying.

Dr. J. Watts—Dr. Rushmore, in his first paper referring to veratrum, speaks of its being introduced in 1869 at a meeting of the Kings County Medical Society—at that meeting I was present. Two years passed before I had occasion to use the veratrum viride in cases of puerperal convulsions. That case happened in the family, the wife of a prominent minister of this city, and I was very anxious about her. I gave her first five-drop doses, although Dr. Fearn had said teaspoonful doses. I found she had two or three

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convulsions before I came back again. I have ordered her five-drop doses every three hours. When I came back again I ordered 30 drops, and I found the pulse, in about two hours afterwards, came down to 60. I then gave her ten-drop doses, following that every two hours, and found the pulse came down to about 40. I became very much frightened and sent for Dr. Skene. In the meantime the family had become alarmed about her condition and sent for Dr. Gregory, who lived somewhere in New York, about Ninetieth Street, but who has since died. We met there, and her pulse at that time was 45. We talked the matter over carefully, and they said to me, "Doctor, give her 5 drops more." And I assure you I breathed freer than before In other cases I have been in consultation and advised the gentlemen to give 15 drops hypodermically, and that has been refused in one or two cases for fear it would cause death, but I said I would assume the responsibility, and in any case I have given it I have not known it to fail. I have always used Norwood's tincture, I do not know why, but I have not had confidence in the other tinctures. I can tell Norwood's tincture when I see it, and I know whether I get it or not; but I have had no experience with the fluid extract.

One point in the matter is that when the patient's pulse reaches 60 or 65, he is sure to go into convulsions; there is no possibility of a doubt abont it. His pulse must be kept below 55, or else you will have no good effect from the veratrum viride. I repeat that the pulse must be kept below 55 to get the effect. If it goes above 60 or 65 the convulsion is sure to occur.

I have so far been unable to ascertain, and I do not know at the present time what peculiar effect the veratrum viride has, and I ask if any one here can tell me exactly. What is its peculiar effect upon the system, excepting that he says it controls the spasm?

But one thin I want to impress upon the gentlemen, that you must get the pulse below 55; but, while you are doing that, you must do something else; you must get the kidneys to working; you must not forget your potash and your hot water applications to the back to get the kidneys into condition; and then, as soon as the albumen disappears, discontinue your veratrum viride.

Dr. W. H. Williams—Mr. President: I have not had a case of eclampsia since the veratrum viride has come into use. For many years I was accustomed, when I had cases of that kind, to treat them as I was taught in our student days—by bleeding, antimony, etc.; and

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for some fifteen years I think I did not see a single fatal case; but at a later period I did. I began to have doubts about the propriety of bleeding, and saw one case where I was sure that I did my patient harm by letting too much blood. The case did not terminate fatally, however. I am sure, if I should have a case now, I would try veratrum viride, and would use it hypodermically; for, as you have stated, the stomach may be in such condition that it will not absorb the drug, which would thus be prevented from producing its proper effects. In one instance I gave to a man, some fifty or sixty years of age, the fluid extract of veratrum viride, five drops, which produced alarming prostration—no fatal or serious effect—but he was much alarmed and felt exceedingly bad at the time. It soon passed off, however.

THE DOCTOR'S HORSE.—What, in part, a doctor's horse should be, as seen by one on the border line: Be it gelding or mare, it should not be large or small, weight close to one thousand pounds for road or city; it should have small, pointed, quick-moving ears; large, bright, prominent eyes, no deep cavities about them. Face should be broad—broad between the eyes. Nose straight, nostrils large. Head, as a whole, small, throat thin, enlargements about the cartilages, neck arched, mane moderate in quantity and length. Breast only moderately broad or full. A great breadth indicates weighty strength and slowness of motion. The other extreme implies want of lung-capacity. Chest and body should be moderately full; abdomen should not taper rapidly or appear tucked up—it indicates feeble digestion. When driving, the dejections should be studied; well moulded and moderately firm balls are desirable. The limbs straight, upper arm full; lower, good-sized, not small or thin; feet large, round, spreading, concave underneath. Hind-legs straight in line of long bones, not fine; feet good-sized, not so large as fore-feet. Coat fine, not too long. Now, Mr. Young Doctor, after driving the horse, if his style and action suit you, go to the stable, see him led into and out of the stall; wait until he is fed. If oats are given him, or any other grain, and he plunges into them with a will, chews actively, works as though he enjoyed his meal and is in a hurry to get them eaten up, buy before you leave the stable, if the price suits you. Of course, you should know whether or not there is existing disease of any kind. In earlier life I bought on a warrant. The brown horse generally is sound, kind, and free from all manner of tricks.—*Medical Record.*

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., " } Editors.

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THE QUARANTINE OF NEW YORK—CHOLERA.

In vain do quarantine officials and newspapers declare that there is no danger of the importation of cholera into New York. The whole country is looking anxiously to the only barrier between us and the cholera, viz: the New York Quarantine, and no doubt its efficacy will have to be shown by actual inspection of those capable of the task before confidence will be restored. Dr. Smith, the quarantine officer, is able, and has at his command large means, but there are so many ways that cunning persons, who have large personal interests in trade, or who are not willing to submit to the

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requirements of the station, can elude all vigilance, that it would be too much to expect that they will not find a vulnerable point in the quarantine.

The *Medical News* sends out an extra issue of the date of October 29, giving a report of the Committee of the College of Physicians of Philadelphia, "appointed to investigate the efficiency of our quarantine arrangements for the exclusion of cholera and other epidemic diseases." After examining the quarantine at the ports of New York, Philadelphia and Baltimore, they point out the serious defects of the quarantine appliances—including disinfection, inspection and hospital facilities. This is a grave matter and should call forth from all interested cities a disposition to aid actively in making the quarantines of all sea-coast cities better. The committee above referred to suggests that it is not fair that New York and other cities should bear the great expense of quarantine, and that it should be provided for by the Government. In this respect we do not agree with the Committee. New York, Philadelphia and Baltimore are amply able to keep up good quarantine. A failure to do so will damage them more than the cities dependent upon them, and this motive will be sufficient to bring the quarantine up to a good condition, at their own expense. A contingent fund for quarantine purposes ought to be issued by the Treasurer of the United States, only when urgently needed.

Whatever shape the movement may assume, now is the time to make it.

GUESSING AT DOSES.

The hardships and inconveniences of a country practice is a large part of the experience of our readers. Practising on horseback or in a sulky, as in great part it must be done by reason of the roads, does not afford many opportunities to carry to the bedside a large supply of medical or surgical instruments, but in this limited space everything supposed to be needed has to be carried.

A long experience generally enables the doctor to reduce the number of his medicines to two dozen and oftener less, and his surgical appliances to a pocket case, a hypodermic syringe and a

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pair of forceps. He cannot be burdened with more—he gets wonderful skill with, and confidence in, these. At first he gives his doses with precision, always resorting to his scales and graduate measure. It is not many years, though, when, having educated his hand and his eye in portioning doses, he no longer thinks it necessary to resort to his measures and weights, even for such potent drugs as morphine and strychnine. It is remarkable how expert one can become in dividing doses into as small portions as eighths of morphine and grains of quinine and blue mass. But even among those who have the greatest skill we doubt if there is a physician who could reasonably defend such practice. Besides making the dispenser over-confident, and so leading him to commit mistakes, it inculcates a habit of guessing and general inaccuracy which is likely to overrule all he does. Furthermore, the physician who practices in this loose way, in a case of fatal error could not defend himself as to the dose given, and might bring sorrow and trouble upon himself. Still further, the practitioner who really studies his cases ought to know what he is giving his patient if he expects to master therapeutics. Lest it should appear idle talk to present such a subject, the writer of this can affirm that such careless and slipshod methods have been known to him, and that among physicians of good standing, and we think it has lead to general slovenliness in other matters of practice.

It may be said in defense that it is not possible to carry scales and measures about in such limited room, but this can no longer hold good now. Pharmacists have produced pills and fluid extracts in such concentrated form that in a pocket case which can be easily carried in the overcoat a supply of medicine can be carried equal to almost any emergency, having the advantage, too, especially as to pills, that they are of reliable weights, and owing to solubility are as active as need be. The physician who fails to take advantage of all that pharmacy has done for him will fall behind in the race. At any rate, there is no excuse for the habit of guessing at doses, and it should be abandoned.

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REVIEWS AND BOOK NOTICES.

TREATISE ON HUMAN PHYSIOLOGY FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE. By Henry C. Chapman, M.D., Professor of the Institutes of Medicine and of Medical Jurisprudence in Jefferson Medical College. Pp. 945. Lea Brothers & Co., Philadelphia, 1887.

A careful perusal of this volume shows that it bears out the intention which the author declares in his preface of preparing a "work representing the existing state of physiology * * * based upon comparative and pathological anatomy, clinical medicine, physics and chemistry, as well as upon experimental research."

The arrangement of the book does not differ from other text-books on the same subject, and opens fairly in the VIth Chapter with digestion. After describing the comparative anatomy of the masticatory organs in this chapter, the next one is devoted to insalivation and deglutition, and the next three chapters are devoted to stomach and intestinal digestion. Around this part of physiology still hangs an absorbing interest. Although perhaps the best worked, if not the best known section, read again and again, we are attracted by the revelations which study and observation have brought to light of these wonderful processes. Then, too, our knowledge of stomach digestion was first taught by the experiments of the American Dr. Beaumont, giving the key to all subsequent researches. Prof. Chapman makes it plain that the work of Beaumont is not duly accredited as being the foundation of all our present knowledge of stomach digestion. He says there is a widespread belief that this knowledge was obtained by the observation made through fistulæ in dogs, but he reminds us that the first of such operations was done by Bassou, the Russian naturalist, and was suggested by Beaumont.

There is no necessity of attempting an analysis of such an elaborate work if we had the time and the ability to compare it with the recent works on physiology, but the points which strike us as we go along are that practical matters—those which have a practical bearing upon the practice of medicine—are lucidly expressed; purely technical matters are given in minute detail; elaborate directions are stated for the guidance of students in the laboratory.

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The chapter on electricity is unusually elaborate, but very necessary, because that few medical students have elementary education enough in physics to get along without it, and because the advance of Electrical Science requires it.

In every respect the work before us fulfils its promise, whether as a complete treatise for the student, or for the physician grown rusty in the elements; for the former it is so complete that he need look no farther (indeed few courses of medicine will go nearly so far), and for the latter, who is not entirely given up to the corrosive effects of indolence, he will find entertainment and instruction for many a long month, and an admirable book of reference.

One feature of the book is worthy of special note, viz: the full manner in which the history of physiological discoveries is treated. Eighteen pages are devoted to the history of circulation, a history for which the majority of students would never trouble themselves to go beyond their text-books, but without which no physician could have an adequate conception of the science which is built upon it.

From such short and practical expressions as that "the heat generated by an adult in twenty-four hours is sufficient to raise fifty pounds of water from the freezing to the boiling point," to the mathematics of refraction and accommodation, is an intellectual excursion which will doubtless attract numerous readers. We know of no volume on physiology that treats so fully of every topic embraced in the sciences, and American medicine truly is honored by its addition to our growing literature.

THE CHEMISTRY OF NITROGEN AS DISCLOSED IN THE CONSTITUTION OF THE ALKALOIDS. By Albert B. Prescott, M.D. Pamphlet, 20 pp.

This paper was read before the American Association for the Advancement of Sciences. Professor Prescott is Professor of Chemistry in the University of Michigan, and a member of the Committee of Revision of the United States Pharmacopœia, 1880. He needs no introduction from us. We are indebted to him for this presentation of the nitrogen compounds, a subject which is of absorbing interest to the profession of medicine just now, as it involves the new compounds—antipyrin, antifebrin, thalline, kairine, etc. Prof. Prescott says: "At the present time there appears a degree of encouragement that the synthetic manufacture of the

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alkaloids, hitherto obtained from plants, will sometime be realized as an industry. Not from the chance efforts of ignorant dreamers, nor from any premature short cuts of special attempt, but, if at all, from the well-earned progress of the science of the world will these results be accomplished. * * * It should not surprise us, if, at any time, artificial alkaloids should assume a commercial importance rivalling that of articles already brought into general use, such as carbolic and salicylic acids."

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Edited by Albert H. Buck, M.D. Vol. V.

The present volume of this great work covers the ground from MIL to POT, and comprises 812 pages. There are many notable contributions besides those of the usual good quality, of which we have not space for enumeration.

Under the head of Orthopedic Surgery we have a reproduction of the early appliances for curved spine, which date very far back into the past, long before the present school of orthopedic surgeons had come upon the stage, and so all sorts of history—medical as well as political—repeats itself. After all, the credit is due to the men who have the genius to establish and make practical a discovery, rather than to the original discoverer who lacks this merit.

If we discover in some of the wood-cuts a falling off in execution, the chromolithograph is good in quality.

This treasury of medical knowledge still keeps the place it first achieved in medical literature, and it is not too early to say that it is a successful achievement. No physician's library can afford to be without the Reference Handbook of the Medical Sciences.

OVARIAN TUMORS AND REMARKS ON ABDOMINAL SURGERY, WITH THE RESULT OF FIFTY CASES. By Edward Borck, A.M., M.D.

This is a very interesting pamphlet, nothwithstanding decidedly a German air about it. The author, who is Professor of Surgery in the College for Medical Practitioners, in St. Louis, gives a good lecture on the diagnosis of ovarian tumors, another on the method of performing ovariotomy, and still another giving the result of fifty cases. Incidental to the narrative of his cases, he makes remarks on the state of ovariotomy in St. Louis. He says: "The surgeons in St. Louis had not been very successful with ovariotomy.

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The bad results were attributed to the atmosphere—they said that malaria in our climate acted so detrimentally upon these cases. It was taken for granted that every patient operated upon would die, etc., etc. Dr. Borck describes a condition of things that was not confined to St. Louis. Ovariotomy has advanced so rapidly that ten years carries us back into the stage of small beginnings, not only for St. Louis, but for all the towns in the South, certainly.

The pamphlet is full of interest and in many respects unique. We are glad to have had the opportunity to read it.

A Practical Treatise on the Diseases of the Hair and Scalp. By George Thomas Jackson, M.D. 1887. E. B. Treat, 771 Broadway, N. Y. Price $2.75.

The author is instructor of dermatology in the New York Polyclinic, and feeling the necessity for a work on diseases of the hair of a recent date in English, he undertook studies which resulted in this volume. We believe he is mistaken in saying there is no work in English, for if we remember correctly, Prof. Leonard has given us a treatise on the same subject.

The first part of the volume is devoted to the anatomy, physiology and hygiene of the hair, the second to the essential diseases of the hair, the third to parasitic diseases of the hair, the fourth to diseases of the hair secondary to diseases of the skin. The bibliography of the volume is very complete and adds largely to its value.

We believe this volume will be of permanent value to the profession whose practice brings before them the difficult and troublesome cases of which this book treats.

The Estimation of Quinine by Kerrer's Method, by E. A. Ruddiman, Ph.C.,

Is contribution No. 1 from the School of Pharmacy of the University of Michigan. This method has been adopted by the United States Pharmacopœia, and this critical examination of the method is well done, but will interest pharmacists more than our readers.

Cyclopedia of Obstetrics and Gynecology. Anatomy of Internal and External Genitals, Menstruation and Fecundation, Normal Pregnancy and Labor, etc. By Dr. A. Charpentier. Vol. I.

This great work has progressed to the ninth volume, including everything in the range of obstetrics and gynecology, by French and German authors. The work is beautifully printed in handy 8vo.

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volumes, and handsomely illustrated. The subjects have been distributed among those authors gifted in given specialties, the result being admirable treatises, which are already standard in the world of medical literature. It is not necessary to do more than invite the attention of our readers to this cyclopedia, as nothing but a thorough examination would show the merits of these volumes.

A MANUAL OF ORGANIC MATERIA MEDICA, BEING A GUIDE TO MATERIA MEDICA OF THE VEGETABLE AND ANIMAL KINGDOM. By John M. Maisch, Phard.D. Third Edition. Lea Brothers & Co. 1887.

We have formerly taken occasion to commend this excellent guide to materia medica, and it is not now necessary to say more than to commend it to medical students. In no department of medicine are students so ill-informed as in materia medica, and to most of our physicians, who are of necessity their own druggists, is such knowledge indispensable. The recognition of drugs, a knowledge of their properties, sources, and a thousand other little things which are taught in this book, should be very familiar to every Southern doctor. The size of the volume commends it, and the illustrations are as good as we have seen, even in the more expensive books. In truth, we can say that we seldom see so handsome a specimen of the typographic art.

A MANUAL OF THE PHYSICAL DIAGNOSIS OF THORACIC DISEASES. By E. Darwin Hudson, Jr., A.M., M.D. New York: William Wood & Co. 1887.

In the preface of this book we learn from the editor, Dr. Laurence Johnson, that Dr. Hudson died just as his work was ready for the printer. The author was Professor of Medicine in the New York Polyclinic, and this work is the outgrowth of his needs as a teacher.

A careful examination convinces us that it is thoroughly practical, as succinct as a volume can be written to convey clear ideas, and will suit the wants of students who are learning the principles and practice of diagnosis of chest diseases. The book has the decided merit of being complete and easily comprehended.

In Chapter VIII. is given synopses of heart disease—the pathology, causes, symptoms, physical signs, diagnosis, prognosis and treatment are given in tabular form.

We have no doubt this useful little volume will meet with general favor, and have a large sale.

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CORRESPONDENCE.

IS IT RIGHT?

Messrs. Editors North Carolina Medical Journal:

DEAR SIRS:—During the last few years a considerable number of those who applied to the Board of Medical Examiners for a license to practice medicine in North Carolina have been found incompetent, and in consequence have been rejected by said Board. But a number of these rejected men are still practising medicine contrary to the law. Now, I would like very much to know in what relation they stand to the regular profession. Is it right and proper for regular bred physicians, and more especially members of the North Carolina Medical Society, to meet these men in consultation? Is it right to call them in consultation? Can we either call or be called with such men?

Please give us much needed light upon this subject, and very much oblige INQUIRER.

[In reply to the question of our esteemed correspondent, we answer that a candidate rejected by the Board of Medical Examiners stands in the same relation as any other private citizen, and if he persists in practising medicine is liable to the legal penalty attached for such misdemeanor.

In answer to the second part, we would say that we consider it highly reprehensible for any legal physician to consult with or have any professional relation [except as tutor] with an unlicensed doctor. More especially would it be wrong for a member of the Medical Society of North Carolina to aid in breaking down the barriers which he has helped to erect for the good of the people and the profession.

The courts have been remarkably lenient, so far, with unlicensed practitioners, but a few cases vigorously prosecuted would clear the medical atmosphere, and we trust that our Superior Court Judges will charge grand juries upon the law regulating the practice of medicine in the State, and that Solicitors will do their duty.—EDS.]

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CURRENT LITERATURE.

BORIC ACID FOR STERILIZING URINE.

The two prime dangers in the operation of internal urethrotomy are urethral fever and hemorrhage, presuming, of course, that the operator has assured himself of the soundness of his patient's kidneys before operating. In a recent conversation with an eminent surgeon of one of the New York hospitals, he remarked in response to a statement that I made, that "the millenium in urethral surgery would be reached whenever the means was discovered of sterilizing the urine by internal medication." The ground for this strong statement was the fact that urethral fever, that dread of operators upon the urethra, is due to infiltration of the tissues of the body by a germ-laden urine.

About the only attempt that has, up to quite recently, been made to prevent urethral fever from following urethrotomies and kindred operations, has been the internal exhibition, prior to the operation, of quinine and the subsequent use of antiseptic injections. My remark that called forth this surgeon's statement was to the effect that we can, by the free administration of boracic acid for twenty-four hours before, and for some days subsequent to the operation, render the urine absolutely sterile, and thus, without any quinine whatever, escape all danger of urethral fever. At that time my experience with this agent thus given was hardly sufficient to warrant a positive assertion. Something less than a year ago I ordered, in a case characterized by purulent and fermenting urine, the exhibition of boric acid in ten-grain doses. The effect for good was so immediate and striking, that I determined to use the remedy instead of quinine in my next urethrotomy, having several times previously encountered severe fevers in this operation, despite the free exhibition of quinine.

In some forty subsequent urethrotomies, several for strictures of small calibre, a number under adverse circumstances, I have had but one case of urethral fever. In that case, operated upon in the practice of a neighbor physician, last month, for stricture of small calibre in a negro, the attendant, by some misunderstanding, omit-

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ted the boric acid after the first subsequent day. A violent chill, with temperature of 105° rapidly following, occurred on the third day. The bladder and urethra were at once washed out with boracic acid, and its internal exhibition in twenty-grain doses renewed. Happily the patient recovered, having served, if but in a negative way, to demonstrate the value of boracic acid as an internal antiseptic. I usually employ ten grains in compressed tablets every three hours, though as high as thirty grains every three or four hours may be given without any irritating or otherwise injurious action upon the alimentary canal. I should, of course, mention that full antiseptic precautions are always employed as regards the instruments used, and that in most cases I also wash out for several days the bladder and urethra with an ordinary hot boric and bichloride solution—an admirable means, by the way, for arrest of hemorrhage, in addition to those already laid down in works on the treatment of stricture. The misgivings with which I formerly performed this wonderfully salutary operation are wholly gone. Hemorrhage, the other danger, is growing more and more rare under improvements in instruments and operative procedure, and when it does occur is ordinarily easy of control. Cocaine, of course, has fully demonstrated its value in penile surgery. The sterilizing bath which I use for my instruments is a saturated solution of hydronapthol. It is much superior for that purpose to carbolic acid.—*Dr. E. R. Palmer, American Practitioner and News.*

HÆMATOZOA OF MALARIA.

The *Journal des Connaissances Médicales* of July 21st and 28th, 1887, publishes an interesting study on the hæmatozoa of malaria by Dr. Laveran, which had first appeared in the *Annales de l' Institut Pasteur*, No. 6, June 25th, 1887, p. 266. In this paper he describes the different elements he has met with in the blood of subjects affected with malaria. The most common of these are free spherical bodies, present in the blood serum. These transparent corpuscles are of variable dimensions, from one-thousandth of a millimeter in diameter to a size slightly greater than that of red

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blood corpuscles. The largest contain pigmentary granules, sometimes of regular form, sometimes arranged in the form of a crown. There are at times two, three or four pigmented bodies attached to one red corpuscle, which becomes more and more pale as the parasitical elements increase in number and finally disappears. These spherical bodies have no nucleus, but when colored with carmine show a double periphery. They have a double movement: one from place to place, and one of rotation. There are also filaments, extremely thin and transparent, three or four times the diameter of a blood corpuscle, adhering by one of their extremities to the periphery of the vessel, the other extremity being free. Their free extremity is slightly enlarged; this swelling is sometimes in the middle. They perform rapid and various movements, which they communicate to the blood corpuscles with which they are in contact. These filaments are known as flagellæ. M. Laveran has also met with bodies of crescentic form. These are represented by crescentiform cylinders pigmented towards the middle. They are transparent and colorless, and are rarely attached to the blood corpuscles. There are also nearly always oval bodies that seem intermediary between the spherical and the crescent-shaped bodies. These do not show any movement whatever. Lastly, Mr. Laveran found in the blood of malarial patients what he calls irregular transparent pigmented *en rosace*, which are more or less irregular in form, motionless and pigmented, and also a fifth kind of element, the *leucocytes mélaniferes*, which are not, strictly speaking, new elements, but are simply white corpuscles containing pigmentary granules. The number of these granules varies from one to ten or more. M. Laveran believes that these pigmentary granules are produced by the destruction of the parasitical elements, which had formed pigments by destroying the red corpuscles. M. Laveran affirms that, out of 480 patients suffering from different stages of malaria whose blood he had examined, he had in 432 cases met with the elements the shape of which has been described above. In the other cases where they were not met with, the patients had already taken large quantities of quinine or were cachectic subjects no longer having fever attacks. Experiments confirmatory of the above were made on the blood of malarial patients from France, Algiers, Corsica, Seneca, Madagascar and Italy (Roman Campagna), with identical results. M. Laveran never met with these parasitical forms else-

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where than in the blood of malarial patients. After describing the hæmatozoa that he found in the blood of malarial subjects, M. Laveran passed in review the latest publications on the subject, and drew attention to the fact that all those who at first opposed his views have now come round to them. The following are his conclusions: The connection between the hæmatozoa described and the phenomena of malaria is incontestable; these hæmatozoa have never been met with elsewhere than in the blood of patients suffering from malaria. The development of these parasites in the blood is intimately connected with the formation of pigment. It is immediately before febrile paroxysms that these hæmatozoa are most abundant in the blood. Cinchona bark, the specific for malaria, causes the hæmatozoa to disappear together with the fever. Lastly, malaria can be communicated from man to man by injection of the blood of a patient suffering from the disease.—*Paris Correspondent of the British Medical Journal.*

INTERNAL TREATMENT OF ANEURYSM.

The first best thing to do with a patient suffering from aneurysm is to put him to bed, and, if convenient, keep him there. We thereby lessen his heart's action by at least six beats per minute. Then take an accurate record of his pulse every day at a fixed hour for several days; we thus get his normal pulse-rate when recumbent. Iodide of potassium may now be prescribed in doses of ten grains night and morning, to commence with. Note the pulse-rate again for a few days; if it should remain undisturbed, increase the iodide one-half; if the pulse be raised, reduce the dose again to ten grains, and persevere with it. In two or three months there will most likely be an improvement, possibly even a cure, if the case has been taken in good time. This treatment lessens the force of the heart and lowers the general blood-pressure, by dilating the arterioles; the aneurism is thus no longer dilated with each pulsation, and the sac walls act like a hollow muscle opposed to an obstacle with which it can successfully cope, so becomes gradually hypertrophied, while the sac diminishes in calibre. To produce this hypertrophy the blood-

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tension must not be lowered too much; hence it is of the last importance to watch the pulse-rate, as a rise indicates too much depression. During this treatment, which has proved very successful, alcohol must be prohibited; but the patient need not be kept on too low a diet otherwise. Subcutaneous injections of morphine or codeine may be employed for the relief of pain.—*Medical World.*

REMOVAL OF NEEDLE FROM HEART.

STETZNER:—A student, after a spree, sought to commit suicide by driving a sewing needle into his heart. Twelve hours after the introduction of the needle the first serious symptoms made their appearance. He then had pain in the cardiac region, difficulty in breathing, and a loud pericardial murmur at the apex. After thirty-six hours the symptoms became so very serious that an operation for the removal of the foreign body was determined upon. No trace of the needle being found either under the skin or in the intercostal space, a piece of the fifth rib was resected, thus opening up the left pleural cavity; then the pericardium was opened up, and about a teaspoonful of cloudy pericardial fluid ran out, and now the needle could be felt lying diagonally in the right ventricle. They succeeded in driving its head on through the anterior wall of the heart, and then fixing it in this position with the finger-nail. The irregular and violent beating of the heart made it very difficult to catch the foreign body with the forceps, and, in attempting it, it again slipped into the ventricle, but this time assuming a vertical instead of diagonal position, rendering it impossible to make any further attempt at its removal; and besides this, an iodoform tampon, used to block up the hole into the pleural cavity, was drawn into the cavity by a very deep inspiratory effort. The tampon could not be found again. The wound was thoroughly tamponed, and the patient recovered in four weeks, although in the meantime he had suffered from a severe pneumo-thorax, with copious exudation. At present the patient enjoys good health, and feels no effects from his escapade. There is neither heart murmur nor abnormal pulse, nor any trace whatever of the pleural exudation. Where the needle

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now is, is, of course, mere matter of speculation; it may be in the heart, or it may have gone on into the mediastinum.

Dr. Iver Hardt has collected together, out of medical literature, twenty-two cases of needle in the heart, of which nineteen were found accidentally on making autopsies. In three cases the needles had been driven into the heart accidentally, and penetrated such a short distance that they were easily extracted.

No case similar to the present, in which the heart has been laid bare by splitting the pericardium, is mentioned in medical literature.

DISCUSSION.

Hahn, of Berlin, showed the half of a knitting-needle, which V. Bergmann had removed from the heart of a girl eleven years of age. It had been driven into her breast by a blow from a slipper. The patient suffered immediately from asphyxia, and was removed to the hospital. Under the left third rib, between the parasternal and mammillary lines, a black point could be seen, which was felt to be the end of the needle. There was a blowing, systolic murmur at the apex. As the needle was slowly withdrawn, it was seen to have a distinctly pendulum movement. Immediately after the extraction, the previously very rapid pulse sank to ninety per minute. The needle was withdrawn very slowly, in order to give time for a clot to form in the punctured wound, and thus avoid hemorrhage into the pericardial sack, which, in some cases of punctured wound of the heart, has been the cause of death. Von Bergmann said that he thought there could be no doubt in this case of the puncture of the heart muscle by the needle, because the murmur changed in character while the needle was being withdrawn, and when completely removed, the murmur ceased entirely.—*Centralblatt für Chirurgie.*

WHEN the fetal pulsations number 144 per minute, the sex is likely female; when they are 124 per minute, male. Towards the end of gestation, the pulsations of the male may be a little higher in number, those of the female a little lower.—*Medical World.*

SANTONIN has been found successful as an emenagogue, in ten-grain doses.—*Medical World.*

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THE CAUSE OF HEAD PRESENTATIONS.

The current number of the *Edinburgh Medical Journal* contains a report of the proceedings of the Obstetrical Society of Edinburgh, held on the 22d of June, in which the Society discussed a paper by Dr. Foulis on the cause of head presentations, in which the writer insists that the head downward position is caused entirely by the constant extension of the child's legs, by which means the round head is caused to glide over the curved inner surface of the uterus, until it becomes at last ffxed over the bony cup of the pelvis, the extension of the lower limbs keeping it there.

The discussion was participated in by such eminent obstetricians as Berry Hart, Matthews Duncan, Carmichael, and James Ritchie.

With some modifications of the theory, we have no doubt Dr. Foulis is correct; but the fact that the suggestion was treated by all these eminent men as original with Dr. Foulis, shows how much American journalistic literature is slighted in the "Athens of the North."

One of the editors of the *Practitioner and News* has for the last five years advocated this theory, and it has not only been published repeatedly in our own columns, but also in the *Medical Record* and *Medical Journal* of New York. However, we shall try to have the matter presented in full to the Edinburgh Obstetrical Society at an early date, when we hope its renowned membership will honor it with a full discussion.—*American Practitioner and News.*

Dryness of the Throat from Excessive Tea-drinking.—Mr. Phillips Hills calls attention to this symptom, which he says is in himself the earliest and surest sign of excess in the use of tea. He says that sometime ago, seeing a patient who was suffering from dry hacking cough and sense of constriction in the larynx, he asked the physician in attendance whether the patient was an excessive tea-drinker, and was surprised to find the symptoms were not generally known. Have any of our readers experience in the matter?—*London Practitioner.*

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NOTES.

The Medical Investigator is the name of a new weekly medical journal "on the order of the *Medical Brief*" is to be started in Louisville, Ky., by S. F. Smith, M.D.

GAILLARD'S MEDICAL JOURNAL.—Dr. Porter has retired from the chair as editor-in-chief of this journal, but with the able pens of the present corps we are assured that this standard old monthly will suffer no deterioration. Dr. George Tucker Harrison and Dr. J. Herbert Claiborne, Jr., are the present editors.

THE Calendar of the University of Toronto, Medical Department, just received, is some indication of the condition of this noted school. An examination of the conditions of graduation, and of the questions propounded to candidates for a degree shows that it would not do at present to try to apply them on this side of the line.

DR. HENRY G. PIFFARD, of New York, has devised a method of taking instantaneous photographs at night by the light of a flash of a pistol charged with gun cotton and powdered magnesium.—*Boston Medical and Surgical Journal.* [Not long ago we noticed that a photograph had been taken by light from several fire-flies—Lightning bugs.]

SANTONINE POISONING.—Dr. F. A. Rew reports in the *American Medical Journal* a case of poisoning by a compound of a half ounce each of spigelia and senna and 10 grains santonine, teaspoonful in milk before each meal. He also gave doses of 1½ grains of santonine in powder. In fifteen minutes it showed signs of acute poisoning, and in half an hour the child was dead. [It is evident that more caution should be used in the administration of santonine. Wood's Therapeutics puts the dose at 2 to 4 grains for an adult; for a child two years old ¼ to ½ grain. Two 1-grain doses given within three hours in a child of eight years, and in a two and a half year's old child a dose of four grains caused alarming symptoms. He says the dose must not be repeated within eight hours, and then the second dose should be combined with calomel. It is the custom generally to give the calomel with the first dose.—EDS.]

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GRAY'S ANATOMY.—We have received a copy of this standard work carefully revised and printed in colors, but have not time to make further notice of it in this issue. The volume in colors is sold at only $1.25 more per volume, so that in cloth the price is $7.25.

CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS is the name of the new medical society formed by the union of several special societies. The Congress of 1888 will be held in Washington, D. C., September 18.

The following officers were elected :

President—John S. Billings, M.D, LL.D., U.S.A.

Vice-Presidents—The Presidents-elect of all the participating societies.

Treasurer—Dr. W. H. Carmalt, of Connecticut.—*Medical News.*

QUANTITATIVE ESTIMATION OF SUGAR IN URINE BY VOLUMETRIC TEST.—Dr. S. P. Kramer, of Cincinnati, gives in the *Medical News*, October 22, a simple instrument by which he estimates sugar by the volume of carbonic acid gas resulting from the fermentation of urine. The suspected urine is shaken with a gramme of compressed yeast and put aside for twenty-four hours. The flask into which the urine is set for fermentation is connected by a tube which is marked with a scale representing percentages of sugar.

SCARLATINAL POISON DOES NOT COMMUNICATE SCARLET FEVER IN CALVES.—The Committee of the Edinburgh Medico-Chirurgical Society express doubt as to whether calves are at all susceptible to scarlet fever. Prof. MacFadyen injected scarlatinal blood into two calves, and fed a third with desquamated scales. All three gave negative results. It will be remembered that the keystone of Dr. Klein's research is the assumption that cattle can take scarlet fever. Much careful, trained investigation is necessary to settle the points at issue.

DRUGS AND MEDICINES OF NORTH AMERICA, now in its 2d volume, formerly published as a quarterly, will be discoutinued as a periodical on the completion of the present volume, but will appear in book form hereafter. It is a very important work to those physicians who are not willing to neglect the materia medica of their native land. In addition to valuable material regarding plants and

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their habits, with good illustrations, the foot-notes make up almost the history of botany and botanists of America, than which we know of nothing so entertaining. This work makes information accessible which was too scarce before to come within the reach of any but the most favored collectors.

A FALSE "CURE" FOR SMALLPOX.—A very misleading and even dangerous thing it is for a book having the large circulation and the confident readers that an almanac has, should try to give remedies for such a terrible disease as smallpox. One recently issued gravely states that cream of tartar is a certain, never-failing remedy. The remedy against smallpox is simply preventive vaccination, and there is no other.

A PASTEUR INOCULATION FAILS.—The *British Medical Journal* reports the case of a man named Whitley, who was bitten by a rabid dog. He was taken to the Pasteur Institute. He was bitten August 1st and was treated on the evening of August 6. The treatment by injection of the modified virus was kept up twelve days. The man returned home and went to work. On October 2d he felt pain in his bitten arm, and on October 4th died asphyxiated. Little doubt can be entertained that the patient died of hydrophobia.

MEDICINAL LIQUID VASELINE—A NEW VEHICLE FOR HYPODERMIC INJECTIONS.—A liquid vaseline which is a very general solvent of medicinal substances promises to be a valuable article in hypodermic medication. It is procured from the distillation of petroleum found in the mountainous regions of Russia. The oil is not only unirritating itself, but it sheaths and modifies medicinal substances dissolved in it. Among the substances soluble in it are, eucalyptol, iodoform, turpentine, phenol, thymol, iodine, menthol, chloroform, ether, salol, sulphide of carbon, sulphuretted hydrogen, myrtol, cocaine, atropine, aconitia, caffeine, calomel, phosphorus, bromine, etc—*Boston Medical and Surgical Journal.*

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES.—This ancient (for America) journal, which for nearly seventy years has been the leader of medicine in America and among the English-speaking nations, will change its quarterly to a monthly form, and reduce the price to four dollars. This is the last of medical quarterlies in the English language, and we read the announcement of the change

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with regret. The publishers announce that there will be no material change except in the frequency of issue, and we dare say the new arrangement will suit the reading public better. The publishers of "Hays' Journal" have long taken the lead in supplying the profession with the best in every department of medical lore, and still leads.

GLEDITSCHINE—STENOCARPINE FRAUD.—It was a bold thing to attempt to put on the market a bogus local anesthetic. Doctors are very wide awake these days, investigating new remedies, and applying them many times prematurely, so that the therapeutics of a new remedy will be ventilated very quickly. Then the active pharmacal chemists determined not to be the last in producing a new product, bend the energies of their laboratories to this end. Woe, then, to the man who attempts to deceive them- The new fraud had a short run. It is proper to say that the physicians who experimented with the substance used it as it was prepared for them, and are in no way responsible.

OSBORNE'S SYRUP.—Nearly every town or section has its favorite rhubarb syrup, which becomes a household necessity for the babies, or rather for the mothers. The following is the modified formula for a syrup kindly furnished by Messrs. W. H. Green & Co., the original of which was by Dr. Osborne, of New Bern. The original prescription called for Cognac brandy, and burnt sugar was dripped into the syrup, after being burnt by the brandy. Our mountain friends hear frequently of this preparation through the summer visitors from the East and for their convenience we print the formula. Children prefer it to the aromatic syrup of rhubarb, and it is convenient and effectual as a vehicle for powders:

℞.—Rhubarb root.....		
Anise seed.....		
Licorice root.....	āā	ʒ ij
Water, op.....		Oj
Boil down to ⅔ and add		
Salts tartar.....		℈ ij
Manna.....		ʒ ss
Sugar q. s. to make a syrup and add paregoric		ʒ j

Messrs. W. H. Green & Co. use 12 lbs. sugar to gallon of the decoction, after adding the manna.

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ELY'S BALM, so much used for nasal catarrh and hay-fever, consists, according to the *Medical Record*, of vaseline 1 ounce, thymol 3 grains, carbonate bismuth 15 grains, oil winter green 2 minims. The directions are to dip the finger into the balm and insert into the nostrils, giving two or three deep inhalations.

LEONARD'S PHYSICIAN'S DAY-BOOK.—This handy book is arranged for thirteen months and is adapted as a perpetual record. It is so contrived as to be a ledger as well as a visiting-list. It is well and substantially bound and of convenient shape for the outside pocket. It is issued annually by the Illustrated Medical Journal Company, Detroit, Michigan. Price $1.00.

DEATH FROM EATING TOAD-FISH.—*Australian Medical Gazette, New York Medical Abstract*, gives a report of the death of a Chinaman from eating soup made from toad-fish. Post mortem examination revealed that the stomach, particularly in the pyloric end, was much inflamed, and there was a considerable congestion of other organs. The coroner stated that he knew of a case in which three children died after eating toad-fish, and some cats which ate part of their vomit also died.

THE MEDICAL NEWS VISITING-LIST for 1888, for 30 patients per week, is a handsome pocket-book, having as a preface a variety of tables and instructive matter for which busy doctors have daily need to refer to. The Dose and Therapeutic tables are very complete, and instructions for the ligation of the more important arteries is a new feature. The binding is very ornamental and substantial, and is in every way a most desirable visiting-list. Lea Brothers & Co., Philadelphia. Price $1.25.

AMERICAN PUBLIC HEALTH ASSOCIATION.—We have seen no notice of the late meeting of this Association but a condensed one in the *Medical Record*. We learn that Dr. C. N. Hewitt, of Red Wing, Minn., was elected President, and Drs. G. B. Thornton, of Memphis, and Joseph Holt, of New Orleans, Vice-Presidents. The Executive Committee, Dr. Henry B. Baker, of Lansing, Mich., Dr. S. H. Durgin, Cambridge, Mass., and Dr. J. N. McCormack, of Bowling Green, Ky. Dr. Irving A. Watson, of Concord, N. H., still retains his office as Secretary. These selections will meet the hearty approval of all interested in this, the most important Association in America.

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THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.—We notice that vigorous action has been taken, according to previous announcement, in the organization of the above Association. The *New York Medical Journal* has this to say about it: "The organization of this Association, as set forth in the letter from Birmingham, Ala., which we publish in this issue, can hardly fail to promote the advance of those branches in the Southern States; indeed, it will probably exert a notable influence on progress in surgery and gynecology throughout the country. Many of the most illustrious names in the annals of American surgery—particularly gynecological surgery—both of the living and of the dead, are those of men who were either born or educated in the South; and we look upon this movement as a token that that part of the counntry may be counted on to keep up its prestige and stimulate the North to still warmer emulation." Dr. W. D. Haggard, of Nashville, Tenn., was elected President, Dr. R. D. Webb and Dr. J. W. Sears, both of Birmingham, Ala., were elected respectively First and Second Vice-Presidents, Dr. W. E. B. Davis, of Birmingham, Ala., Secretary. Birmingham is selected as the place of next meeting. There is no lack of good material in the South for the successful career of such an association if there is proper leadership.

DR. STERNBERG ON THE NEW YORK QUARANTINE.—The following illustration of the evils arising from the present system of supporting quarantine establishments was cited. It occurred at the port of New York. The speaker said: "With the deputy health officer, who boarded our ship, came a man with a jug. I was informed by one of the officers of the ship that he was to disinfect the vessel. Being somewhat curious to know the method of disinfection employed, I asked the ship's surgeon to go with me to inspect, when, after a detention of less than one hour, we had started from the quarantine station for our wharf. We found that the man with the jug had lowered a bucket by means of a rope through one of the hatches between decks. Upon pulling up this bucket, I found that it contained two or three pounds of some powder which had been wet, probably with an acid solution, and which gave off an odor of chlorine. No doubt, when first lowered between decks, there had been a considerable evolution of chlorine; but in the vast space to be disinfected it was so diluted that, at the end of an hour, I did not detect the odor of chlorine-gas when

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I lifted the hatch, and it was only by approaching my nose to the bucket that I was able to ascertain what disinfectant had been used. The most curious part of the story is that I was informed that the bucket had been lowered between decks to disinfect a quantity of hides which were stored in the hold. What was the object of this 'disinfection?' Evidently not to disinfect; for no one at the present day would think of maintaining that the hides in the hold had been disinfected by the procedure of the man with the jug."

THE RELATIONS OF PRACTICAL PHARMACY TO MEDICINE is the caption of an editorial in the *Medical Times* which has truths in it that must be learned sooner or later in the larger cities. As the writer says, "The specialists have plundered their mother until she stands nearly naked. The gynecologist, laryngologist, rhinologist, ophthalmologist, aurist, neurologist, the expert in diseases of the chest, of the rectum and of the genito-urinary system, bid openly for every patient who can afford to pay large fees. The druggist takes the cases of venereal diseases, the dressing of wounds, and the treatment of all minor ailments who do not confine the patient to the house. The balance goes mainly to the hospitals and dispensaries. We dread definitely to state just what is left for the family physician, lest somebody will seize upon it as a new specialty, and leave us nothing! The fact then remains that the druggist is our most dangerous competitor. He is under no professional restraint; he has an insight into our methods; hears of the results of our treatment; and thinks that when he can select the best out of twenty physicians' prescriptions, he knows more than nineteen of them." He asks if there is any remedy for this state of things, and answers: "This method is to go back a few steps and reunite the profession to the business. When the young physician receives his diploma, instead of sitting down in his office, or studying methods of so advertising himself as to keep within the letter of the law, although breaking it in spirit, let him set up a pharmacy. The advantages are as follows: The experience he will gain, in handling drugs, is of the greatest value. He will profit by this through his whole future career. The experience he will obtain as a physician, from one year in a drug store, will be more than he would receive from five years of practice." Such a state of things has not reached the sunny South; simply because the population is not dense enough, but counter-prescribing is a growing evil. The suggestion, though, of returning to dispensing of medicine by the doctors in some circumstances would be advantageous to the young physicians, many of whom have slim enough knowledge of pharmacognosy and pharmacy to need all such aid.

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DR. WILLIAM SELDEN.—Dr. William Selden, an old and prominent citizen of Norfolk, Va., and the wealthiest capitalist in this section, died November 7th. Dr. Selden was born in Norfolk, Va., in 1808. He studied at the University of Virginia, and took his degree of M.D. at the University of Pennsylvania, in 1830. After spending two years in study in the hospitals of Paris and London, he established himself in practice at Norfolk. He was a surgeon in the Confederate Army, and had made a number of contributions to medical literature, among them a "Report on the Yellow Fever in Norfolk and Portsmouth in 1855."—*Medical and Surgical Reporter.*

READING NOTICES.

A PERFECT LIQUID CATHARTIC.—I have been using your ELIXIR PURGANS in my practice and find nothing to equal it as a cathartic and laxative for women and children.

A. E. HASKINSON, M.D., Columbus, Ohio.

Cablegram—LONDON, Oct. 25th.—W. R. Warner & Co., Philadelphia, received highest award from American Exhibition in London for superiority of their Sugar-Coated Pills and Effervescing Salts.

W. H. BLYTHE, M.D., Mount Pleasant, Texas, writes: "I used Lactated Food in a case of dysentery. A little girl, six years old, was confined to her bed nearly four weeks. Eat she could not, yet eat she must or die. I bethought me of Lactated Food—it was well I did. In it her feeble digestion found what it required. I believe the Lactated Food aided every much in keeping up her body heat."

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NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D.,
GEO. GILLETT THOMAS, M. D.,
} Editors.

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ORIGINAL COMMUNICATIONS.

INCISION INTO THE PELVIS OF KIDNEY, AND TREATMENT TOPICALLY THROUGH DRAINAGE-TUBE, FOR THE CURE OF BRIGHT'S DISEASE—CASE SUCCESSFUL—REMARKS.

By T. B. WILKERSON, M.D., Young's Cross Roads, Granville County, North Carolina.

Peyton P., æt 30 years, married; a well-to-do farmer of Halifax county, Va., of no traceable hereditary or acquired constitutional taint, consulted me in March, 1886, for some renal trouble. He dated the inception of his malady to a blow from the falling top of a pine tree, the latter striking him, while stooping, on the back in the right lumbar region. This injury was inflicted about one year previous. For more than six months the man had been confined to his bed a helpless invalid; the face presented a marked cachectic pallor, with some tendency to œdema around the eyes. General appearance showed extreme emaciation; appetite bad, the little food taken gave rise to

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colic pains attended with gaseous eructation; anorexia frequently accompanied with nausea and vomiting; skin devoid of moisture, harsh and dry; constant thirst, with some hectic flush toward evening. Hebetude of mind formed a noted feature in the case, the responses to questions being hesitating in manner, in fact, there was a growing tendency to sopor; anasarca present in the lower limbs. The patient had suffered more or less ever since the reception of the injury with dull aching pain in the right lumbar region extending down the groin to the testicle and along the thigh of the same side. This uneasiness was greatly aggravated during damp, cold weather. Micturition has given some trouble—the calls to void the urine becoming oftener than common, especially during the night. A careful urinalysis by his attending physicians during his confinement had demonstrated the fact that there was a persistent loading of the urine with albumen; that the specific gravity had gradually lowered to 1008, and that pus and blood were present in the fluid. The quantity discharged during the twenty-four hours had fluctuated, but with an increased lessening below the normal measure. Microscopical examination had detected tubular casts and granular matter; urine generally of a dark brownish hue, showing considerable sedimentary deposit when allowed to stand for a short time. A general summary of the symptoms noted in this case, together with the rapid loss of stamina in the patient, notwithstanding the excellent hygienic and therapeutic surroundings that had been afforded him, warranted the belief that he was fast nearing the fatal terminus of Bright's disease, and that the danger signal "coma" was nearly in view. A careful deep palpation on the side over the kidney gave an indistinct fluctuation. The absence of any marked hypertrophy of the heart and of disease in any other of the important organic viscera and the pointing, in the main, of the rational symptoms to the right lumbar region, led me to hope that the disease might exceptionally be unilateral in character. Fully cognizant that a point had been reached in the case where any further medicinal measures would prove futile, I determined to perform the following operation: After having satisfied myself of the existence and non-rudimentary character of the twelfth right rib, the patient was placed on a narrow, firm table, before a good light in the prone position, with a slight inclination to the right side, and fully under the influence of chloroform, March 10th, 1886, assisted by J. H. Tuck, M.D., and some medical students, an incision was made through the skin and superficial fascia,

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commencing a little below the border of the twelfth right rib, extending downward nearly four inches along the border of the sacro-lumbaris muscle. Then, finding the position of the quadratus-lumborum, the upper border of the latter was carefully brought into view by dissection on the grooved director. Having the lips of the wound held well apart, the deep fascia surrounding the adipose capsule of the kidney was divided; and after separating the little fatty tissue present by gentle manipulation with a covered probang introduced under the lower surface of the kidney, the latter was slightly dislocated laterally. This manœuvre exposed the cyst walls; this being nicked was freely laid open. The extreme tension caused the contained pus in the sac to spurt up nearly a foot. The cyst was slightly mushroom in shape, with the neck toward the pelvis of the kidney. The latter was opened sufficiently to admit the finger, and over a pint of matter was expelled. Two small cysts situated on the upper edge of the hilum renale were broken in two. These contained albuminoid-like fluid. After thoroughly washing out the abscess cavity with a weak solution of permanganate of potash, the true cyst wall was well swathed with a mop dipped in carbolic acid; this was done to destroy the pyrogenic membrane. A short soft rubber drainage-tube was well located in the pelvis of the kidney, and to prevent its displacement a suture was passed through the instrument, then through both lips of the wound, and tied. The wound was closed by suture and adhesive plaster. The cavity was directed to be washed out twice a day with a quarter grain solution of permanganate of potash. The following pill is used by me after every surgical operation:

℞.—Acid carbolic..... ..... gule. xij
Pulv. opii..... grs. vi
Quinine sulph..... grs. xv
℔. Make 12 pills. Dose one 3 times a day.

For forty-eight hours after the operation there was considerable dyspnœa, the patient complaining of a heavy weight resting on the right breast; and but little rise and fall were noticed in the thoracic walls of this side. Until the subsidence of this phenomenon it was feared that probably the pleura had been injured. The drainage-tube was allowed to remain in for three weeks.

Five weeks after the operation the wound had healed, and a marked amelioration of the general symptoms was plainly visible, there being

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a gradual abatement of the renal trouble. The patient continued to improve, and now, more than eighteen months after, the man is attending to his general business, is daily engaged in manual labor on his farm, has gained his maximum weight in flesh, with no evidence of his former trouble. No trace of albumen remains in the urine; the specific gravity is up to the normal standard; he voids the fluid without pain, and in the usual quantity.

Anasarca and all heart symptoms have long since disappeared, and, in fact, there is every indication that the man has been restored to perfect health.

REMARKS.

The application of the knife for the cure of Bright's disease will be regarded by the medical profession as a pioneer step on the road of surgery; but when all medical treatment has been exhausted and a fatal issue is inevitable by the regular routine of treatment, and where there is a reasonable supposition that a pus sac exists, or that septic material is forming in the kidney, a probatory incision into the pelvis of the organ and through a drainage-tube, the direct topical application of alterative antiseptics, afford a hopeful plan of treatment. Pathological anatomy has demonstrated the fact that in Bright's disease there is going on a dangerous irritative inflammation in the tubuli uriniferi; and resulting from the morbific change there is an effusion of effete material. The collection of this matter in the pelvic depository of the organ, no matter how minute the quantity, as long as it remains, threaten danger from septic decomposition. The absorption of this poisonous sepsis into the general circulation may produce a fatal pyæmic or septicæmic attack. The coma frequently preceding the final issue in this disease is no doubt in many instances due as much or more to this cause than to uræmic poisoning. The time will doubtless come ere long when all diseases will be traced to a germinal beginning, and the "materies morbi" traced to an antero- or heterogenitic cause. It has already been asserted that this disease following scarlet fever is due to the accumulation of scarlatinal bacilli in the kidney; the destruction of these by local treatment might be a great factor gained. It may be stated that where there is a reasonable diagnosis that the disease is unilateral, or, if both organs are affected, the one giving the most prominent symptoms may be entered by a probatory cut, and the other will sustain life while this is undergoing treatment; for the cutting into the pelvis of the kidney does not

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necessarily suspend its functional action. On the other hand, if benefit accrues, the eliminative and secretory action will be increased. This fact has been demonstrated in operations for pyonephrosis when both kidneys were implicated. The ante-mortem examination of the kidneys in these cases showed a portion undergoing granular atrophy, and the lower surface dotted with amyloid spots.

PUERPERAL CONVULSIONS.

By L. G. Broughton, M.D., Kenly, Johnston County, N. C.

Sometime ago there appeared in the North Carolina Medical Journal an article on "Puerperal Convulsions." The views of the writer and those of myself somewhat differed, and I began to study more closely the cause and nature of the disease. Since the article first appeared in the Journal I have been unfortunate enough to be called to two cases of puerperal convulsions. My idea for writing this article is not to put forth any originality or to call up an argument, but simply to offer a few hints obtained by a careful study of this trouble. It strikes me that, to the general practitioner of medicine, there can be no subject of more importance, for certainly when a physician is called to treat a woman having fits during labor he is as badly perplexed as under any other circumstances during professional life; he realizes at once that there is staring him in the face one of the gravest maladies with which he has ever come in contact. And well may we as a profession so much dread to answer to its summons, for as a body we know less of its true pathology than of most any other disease the human family is heir to. Great minds have combined to fathom its depths and explore its hidden mysteries, and much has been accomplished, but to-day it remains a subject for many discussions and serious investigations. In my own mind I think we can speak much more positively with regard to its treatment than we can of its cause. There are only a very few things we can say we *positively know* about it. We know we find them just before, just after and during labor, but we cannot go much further, positively speaking. We may find convulsions, of course, during any period of a woman's existence, but they are of

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an entirely different character and require an entirely different form of treatment. I believe that true puerperal eclampsia is the same, in the main, wherever we find it, and that it has the same cause at all times. Now, then, the great question is, What is the prime cause? I confess, with all others, my inability to give it, and yet I will say that I *believe* that the true cause has long been found, if it could only be agreed upon, which is very necessary in order that a successful plan of treatment might be adopted. According to my own experience and to the views entertained by different authors on the subject, I feel fully satisfied that the trouble is wholly and solely controlled by the nervous system. "An over excitability of the nervous system is the only rational explanation of its cause." Clinical observation, the results of therapeutics, experimental physiology, all go to bear up this testimony. The true cause being in the nervous system, any of the other causes given by different authors may underlie, and, in fact, strengthen, the proximate cause, and tend, no doubt, to excite eclamptic perturbation when the main cause is dormant, but that does not destroy the theory. The nervous system of a woman is at a higher tension during pregnancy than at any other time any way. She suffers more neuralgia, toothache, palpitations, etc., during this period than at any other. King in his work says, in speaking of this trouble: "Nerve irritation may be either centric or peripheric, or both combined, that is, an exalted excitability of the reflex excito-motory instrumentalities as they exist in receptive sensory nerves and surfaces, or in motor or responsive ganglia and the motory nerves themselves." An excitor nerve at a great distance, say in the womb, being impressed, awakens such a change in abnormally polorized motor cerebral or motor spinal centers as to bring on convulsive action. If, therefore, any impression be made upon the nervous system, there will be a corresponding impression made upon its functions, so the greater the impression the greater the disturbance will be. In a case I had about two weeks ago I thought I saw this theory well demonstrated; the woman complained for sometime before her confinement of pains of a darting, lacerating character, running up and down her back, and during this period (while these pains were troubling her) she would have "foolishness" in her head. When the pains in the back would cease this condition of the head would also pass off. She would also be very easily excited by anything that would

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otherwise not impress her at all, showing every evidence of a highly excited nervous system. Some authors speak of a vitiated condition of the blood as being the cause. This strikes me as being unreasonable, for, although the blood is altered, yet by no means can we say it is vitiated blood. Good blood is furnished both mother and child. She is in a physiological state while pregnant, and not in a pathological one. Suppose we adopt this theory as being correct, what would be our plan of treatment? First, let us see to what this highly irritated condition of the nerves will lead to. What are the results of irritation anywhere and at any time? Following irritation we always have a determination of blood to the part, and the determination is in proportion to the amount of the irritation. Now, then, the part irritated most is the cerebro-spinal nerve, consequently we have a determination of large quantities of blood to the cerebro-spinal system. Now, what should suggest itself to us as a natural remedy? Give morphia to relieve irritation—it seems to be indicated to some extent, but yet I do not think it is in the first stage of this trouble, because, while it would admirably control the irritation, yet it would so paralyze the muscular coat of the arteries, etc., as to let the blood remain in the cerebro-spinal system as before. Blood-letting here is *the* remedy to overcome the congested condition, and *afterwards* morphia, to overcome irritation. Bleeding is a good sedative any way. Who has not seen the pain of pneumonia relieved by the loss of a little blood? This is my universal plan of treatment—first bleed, then morphia, and *many*, many times no morphia has to be given at all, and as long as the lancet continues to serve so well I do not want a better plan. It beats all the chloral, and bromide, and atropia, and chloroform, etc Formerly I dreaded these cases, but now, since I practice in this way, I do not.

I might mention other things—manner, dealing, etc., etc., but of no use, for all understand them.

CINQUEFOIL (POTENTILLA CANADENSIS) IN NIGHT SWEATS.—Dr. Sampson Pope, of Newberry, S. C., calls attention of the profession (*Therapeutic Gazette*) to the use of Potentilla Canadensis (Five finger, Cinquefoil) to relieve night sweats. It is given *ad libitum* in form of decoction. "Five finger" is very common in all parts of North Carolina.

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NOTES ON GYNÆCOLOGY—DISPLACEMENTS OF THE UTERUS.

By R. A. Patterson, M.D., Aurelian Springs, N. C.

Perhaps no more common, and few more important, lesions befall the female genital organs than displacements of the uterus, and perhaps in no direction has surgery achieved greater success than in restoring the organ to its normal position, and health and comfort to the afflicted.

Not only do the most accredited gynæcologists attribute to displacements, dysmenorrhœa, sterility and many functional derangements of different organs and prove their diagnosis correct by restoring the uterus to its natural position, and so relieving the patient, but the successful management of such cases is a frequent event with the general practitioner. Yet, strange to observe, that there are not wanting individuals who deny that evidence can be adduced to prove that any derangement of the uterine functions are due to these causes.

The editor of the *London Medical Gazette* quotes some statistics from a Dr. Vedeler, of Christiania, and says if these statistics are admitted to be true, displacements are as common in the healthy as in the sick.

This Dr. Vedeler claims to have examined 3,012 women, irrespective of health or disease, and a large proportion of them virgins in perfect health. Now, if the state of morals in this town is such as to admit of his being allowed to examine so many females in a state of health for the gratification of curiosity, is the place worthy of its name? It is to be hoped that the statement is a fabrication, and that no such multitude of healthy women in any civilized land ever consented to submit themselves to such degradation, and his professed discoveries are the more improbable from the fact that, so far as the experience of the most distinguished gynæcologists extends, his statements are diametrically opposite to the facts.

This London editor must have very little respect for the teachings of his distinguished countrymen, Simpson, Grailey Hewitt and others, to endeavor to sustain or corroborate the statements of this apparently unscrupulous foreigner.

In a paper read at the late International Congress by Dr. A. Lap-

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thorn Smith, he says that nearly all diseases are due to muscular relaxation. The uterus being a muscular organ, and supported by muscular ligaments, a relaxation of their fibres brings about displacement. His remedy for the relaxation is electricity, but it is doubtful if, in the case of a woman who is compelled to be much on her feet and to exert herself greatly doing household work, any remedy has ever been devised which sustains the womb in its normal position and affords so much comfort as a well-adjusted pessary. The efficacy of the instrument is exemplified in the cases cited below which are selected from my own practice:

Case 1.—In March, 1884, I was called to see Mrs. J. W. P., aged about 30, the mother of two children. Had been in poor health since birth of last child, 12 months old, sometimes unable to exert herself at all, but for the past two months confined to bed, unable to sit up except for a few minutes in bed. General appearance indicated fair health except somewhat anæmic. Suffered pains in pelvic region and lower extremities. Manual examination revealed prolapsus uteri, os resting on floor of pelvis. Happened to have with me Thomas Hodges' pessary, upon the application of which she was able immediately to walk without pain or difficulty. Having been unable to sit on anything but the soft bed before, she could now sit, without inconvenience, on a hard bench. Being requested to walk in the next room, where were assembled the family, she replied, "They will take me for a ghost, knowing I have not walked for two months;" and when she entered the burst of astonishment on all sides showed that she was not far wrong. After this she was able to attend to her domestic duties in and out of the house, and became pregnant. After the birth of the child she was affected in a similar manner, and is again relieved by Hoffman's soft rubber pelvic pessary.

Case 2.—Mrs. P. L., aged about 26, with one child 3 years old; had aborted 9 months before; health very poor, pale, anæmic, pains in abdominal region, and lower extremities. Leuchorrhœa, incapacitated for any work, such as the washing, cooking, etc., for herself, husband and child, devolved on her, and was especially onerous. Found womb prolapsed and anteverted; granular inflammation of os and cervix. Applied to inflamed parts fluid extract pinus canadensis ʒ i, carbolic acid gr. 10, a few applications of which, with perfect rest, removed the inflammation. The womb was replaced,

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and Hoffman's pessary applied. She was given elixir calisaya, iron and strychnia as a tonic. She soon recovered, went about her usual work and has since borne a child.

Case 3.—Mrs. J. H. B., aged 30, married 14 years, applied to me, stating that she suffered indescribable pain, at her monthly periods violent headache, occasionally had spasms and was insensible, suffered greatly during and after defecation, health much impaired, pale and emaciated, multiparous. Examination revealed womb rather attenuated, retroplexed, causing stenosis at internal os, giving rise to difficulty and pain in passing the sound which entered with a sudden issue. One ovary prolapsed. The retroflexion was easily overcome, but pessaries of various forms and designs were used to retain it in the normal shape. The stenosis was greatly modified by the introduction of bougies and sponge tents. The treatment enabled her to pass those periods sometimes painlessly, and at others with little, so that her health and general appearance greatly improved, and she was entirely relieved of those grave symptoms.

Case 4.—Mrs. J. K., aged about 35, mantaumaker, had borne several children, youngest seven years of age, since birth of which had been in wretched health, unable to walk from room to room without suffering intensely; pale, feeble, anæmic, painful sensations in different regions. Had been treated by different practitioners, but never examined. Found uterus prolapsed and anteverted. Applied Hoffman's pessary and gave iron tonic. Her appetite, which had become "bad," was restored, her flesh and color returned, she walks two miles without inconvenience, and is, in short, quite well.

Case 5.—Mrs. K. H., aged about 35, married 17 years. Aborted a few months after marriage, never been pregnant since, troubles dated from time of abortion. Complained of painful sensations in pelvic region and back, walking caused great discomfort and weariness (dyskinesia), insomnia and dyspepsia, but the most constant and serious pain was in the right supra-iliac region. Digital examination revealed prolapse of the uterus, the os resting on floor of pelvis, fundus leaning to left side. Speculum disclosed no abrasion or ulceration of os. Sound entered two inches without the slightest obstruction or pain. Her appearance indicated good health as to amount of flesh, color, etc., but she remarked that no one knew the amount of her sufferings.

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Attributing her troubles to the displacement, the uterus was replaced upon the end of the finger without causing pain. A tampon of cotton wool, saturated with fluid extract Pinus Canadensis was placed against the os, and one without the extract behind this. Saw her in two days, when she expressed much relief, slept well, walked with greatly more ease, but pain in right side remained the same. Learned from friends that this pain, though constantly with her, was greatly aggravated at times, and was called by them colic. Removed tampon, had vagina thoroughly syringed with hot water, then applied one of Hoffman's soft rubber pessaries No. 1. Returning after several days, found pessary had not maintained its position well, removed it and adjusted No. 2. About ten days afterwards was summoned to see my patient, said to be suffering great pain. The thought at once occurred that the pessary is causing irritation in the pelvic region. On reaching bedside found her suffering great pain in right supra-iliac, extending towards umbilicus, proceeded to remove pessary, but was told by patient that it was causing her no inconvenience, but had afforded her great relief. On removing it found no tenderness or swelling in or near the uterus and nowhere in pelvic region the os and cervix could be pushed to either side without causing the least pain, but when the uterus was forced up there was tenderness. There was every symptom of acute peritonitis. At first, attributing all the symptoms to the displacement, the right supra-iliac had never been examined with a view of discovering any cause for the pain, and now the excessive tenderness forbade it. Upon reflection it did not seem possible in the absence of all pain or tenderness of any organ in the pelvic region that the inflammation could in any way be connected with the instrument. Its commencement seemed to be in the seat of the old trouble, the region of the cœcum. Whether typhilitis, with ulcerative perforation, abscess or cancer discharging into the peritoneal cavity, or something else, is unknown.

Death resulted in four days. But for the fact that the pain originated so high up, nearly on a line with the umbilicus, in what seemed to be the seat of an old lesion of doubtful nature, the question might arise, Can a pessary produce peritonitis without giving rise to any symptoms, either objective or subjective, of local malady?

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COMPARISON BETWEEN THE SURGICAL DISEASES OF THE WHITE AND COLORED RACES.

By Louis McLane Tiffany, M.D., Professor of Surgery in the University of Maryland.

The following notes are brought to the attention of the Association as preliminary to a more extended series of observations not yet completed.

While the number of cases collected is too limited to admit of the formulating of rules for a comparison between surgical affections of the white and colored races, yet it will suggest lines of thought for future research.

The statistics presented are prepared from a record extending over a period of thirty-four months, embracing 4,930 surgical cases, the great majority being out-door patients of a general hospital, the minority occupying beds in the wards of the same hospital; so far as possible, all patients were studied under similar conditions. Of the 4,930, 64 per cent. were whites, and 36 per cent. were negroes. Under this latter heading are classed mulattoes of various shades. Not the least interesting observation that I have made is, that where whites and black negroes differ in their behavior under a disease, mulattoes are apt to occupy a middle position, corresponding, more or less, to their gradation of color. The diseases of the two races will be compared in percentages, and it is necessary to remember the proportion already stated which the whites bore to negroes—64 : 36, or nearly two to one.

	Whites.	Negroes.
Abscess occurred in.....	57 per cent.	43 per cent.

the negro slightly exceeding his proper percentage; when, however, abscess by region is studied, a marked difference is found.

	Whites.	Negroes.
Abscess of neck and axilla...	44 per cent.	56 per cent.
Abscess of hand and fingers..	75 "	25 "
Alveolar abscess.....	45 "	55 "

Alveolar abscess was observed very rarely in the dark negro, but frequently in the light mulatto.

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The neck and axillary abscesses were often observed in association with enlarged lymphatic glands in

	Whites.	Negroes.
Neck, Axilla, Groin	41 per cent.	59 per cent.

Excessive pus formation occurs in the negro, not only with scrofulous affections, but with syphilitic as well; enlargements of lymphatic glands also are apt to be marked in the syphilitic negro, compared with the white race. My experience leads me decidedly to the opinion that suppuration in the syphilitic negro is greater than in the syphilitic white.

The following table indicates the relative frequency of the diseases named :

	Whites.	Negroes.
Ganglion	83 per cent.	17 per cent.
Bursa	77 "	23 "
Hydrocele	94 "	6 "
Fistula in ano	71 "	29 "

In the negro this latter has rarely been noted, unless accompanied by indications of tuberculosis.

	Whites.	Negroes.
Internal hemorrhoids	82 per cent.	18 per cent.

It is not at all uncommon for "piles" to be complained of by negroes, who are apt to designate all rectal and anal discomforts by this name. Examination, however, often reveals another pathological condition; the above percentages are accurate.

	Whites.	Negroes.
Spinal caries	47 per cent.	53 per cent.

has been seen in the lower dorsal region of the negro more often than elsewhere. Recovery from caries of the spine is more frequent among whites. An adult or middle-aged negro showing the characteristic humpback of cured Pott's disease is a great rarity.

Dislocations have been encountered more often in the whites, and

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taking the shoulder as a standard, the proportion is found to be—white, 82 per cent.; negro, 18 per cent. Fractures do not show a difference between the races.

Keloid is very common among negroes, and rare among whites. Its occurrence without wound is a matter about which I have been able to reach no conclusion, since a traumatism so slight as to have been forgotten, may be the starting-point. In at least one instance (negro) within my personal knowledge, a keloid formed at the seat of an injury, the skin not having been broken. The tendency to keloid growths is most pronounced in early life, less so in adult; while it is highly probable that middle and old age are accompanied by a tendency on the part of the formations in question to cease growing and atrophy. Hence, an aged negro with keloid is exceptionally seen. Retrograde metamorphosis is characterized by the surface becoming soft and wrinkled, resembling somewhat the pendulous tumor of fibroma molluscum. Removal of keloid in early life is to be deprecated, speedy recurrence being inevitable; when the period of rapid growth has passed an operation can be undertaken with the prospect of relieving the patient from a present discomfort, and the expectation of a limited recurrence, if at all. Of benign tumors, lipoma and fibroma are recorded as met with more often in the colored race; sebaceous cysts occur largely in whites—88 per cent. Telangiectatic formations are extremely rare among negroes; their non-recognition may be due in some instances to their being obscured by skin pigment, in the same way that an erythema or commencing erysipelas may escape notice, but this will not hold good for the tuberous nævi so common in white children.

Of malignant growths, the ones most common in the negro are the sarcomata, and these are usually in relation with the skeleton (osteo-sarcoma). Carcinoma is very rare in the negro. A most interesting observation in this relation is that there is not recorded a single instance of epithelioma of the face or lip of a negro. My practice, other than here tabulated, shows similar experience. On one occasion only can I recall to mind an instance of epithelioma of the tongue of a negro.

Acute inflammatory gonorrhœa is recorded as more frequent in whites, while the reverse is true of chronic urethral discharge, negroes not paying much attention to such a trifling ailment. Gonorrhœal rheumatism is infrequent in the colored race.

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Inflammatory phimosis, usually from local sores (chancroidal) occurred in the proportion of white—27 per cent.; negro, 73 per cent. The sores are very often situated just inside the preputial orifice.

Lateral curvature of the spine is very rare in the negro; on the other hand, rickets, with more or less bone deformity, occurs—white, 37 per cent.; negro, 63 per cent. Congenital deformities are very exceptionally seen in the colored race, and, if present, the possessor will probably be a light mulatto.

Cleft palate, harelip, talipes (non-paralytic), exstrophy of bladder, epispadias, hyspospadias, spina bifida, have not been met with in the dark negro.

One instance of spina fidia, one instance of harelip, and two instances of congenital club-foot have been met with in negroes having a very large admixture of white blood.

Comparison made between ward patients of the two races, some admitted into hospital when first seen, others treated as out-patients, and sent into hospital for operation, have led me largely to form the opinions expressed in suggestions 1 and 2, hereunto appended.

In conclusion, I offer the following suggestions:

1. Surgical affections pursue different courses in the white and colored races under identical hygienic surroundings.

2. Surgical injuries and operations are better borne by negroes than whites.

3. Surgical diseases involving the lymphatic system, especially if tubercular, are more fatal in negroes than in whites.

4. Congenital deformities are more rare in negroes than in whites.

5. Surgical differences observed between whites and negroes are due to race peculiarities.

INFANTILE CONSTIPATION.—A very successful remedy for this is podophyllin in small doses; iridin may be combined with it with good effect. Make a tincture of the following: Podophyll. resin, 8 grs.; iridin, 5 grs.; spt. ammon. arom., 1 drachm. Digest for several days and filter. From 1 to 2 drops of this may be given at bedtime on a small piece of loaf-sugar, or the dose may be combined in mixture along with syrup of orange. This is the dose for a child of one year and under.—*N. Y. Medical Record.*

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SELECTED PAPERS.

MALARIA NO POSITIVE POISON, BUT A NEGATIVELY POISONOUS CONDITION.

By C. A. F. Lindorme, Ph.D., M.D., Fort Reed, Florida.

A well-known text-book states, with reference to malaria, that "of the existence of such a poison there can be no doubt." This, I hold, instead of being an axiom, is rather, as the French call it, a *façon de parler*, a term used in cases where it becomes necessary to silence a doubt. It would be strange, indeed, if, by speculative pathology, we should establish the existence of a body of which chemistry is ignorant. Chemical science is far from being loath to tolerate, in atomic hypothesis, the liberal exercise of synthetic as well as analytic boldness. But no chemist has as yet dared to conclude from any experiment, or combination of thought based thereon, the existence of a substance called "malaria;" and medical literature even, by the shyness with which its more exact branches dwell upon it, testifies to the problematic character of this diagnostic entity.

The most prominent among the pathological facts connected with malaria is the intermittence of the ailment which is attributed to it. But this is the very point which speaks against the existence of a positively poisonous substance. If a specific poison should be assumed there would be nothing to support the claim why it acts in a way altogether different from other poisons, be they vegetable, mineral or bacteriological, which have a climax of action, proceeding subsequently to either death or recovery, or, perhaps, a continuous chronic ailment. It is bold logic to contend, without any bodily footing for such an opinion, that there is a specific poison which takes its turns in being poisonous, leaving things intermittently *in statu quo ante*.

The text-books, although positive of the existence of the malarial poison, nevertheless admit the doubtfulness of its nature, and are very indistinct in their etiology. While they state that organic dangers mostly occur in the liver and spleen, they leave it an open

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question whether the pretended poison is chiefly inhaled by the lungs, taken up by the stomach, or, possibly, by the skin!

It would be rather punctilious in the poison malaria if the inlet selected for the perpetration of its mischievous tricks in the body were by other channels than those named! The assertion that the cause of the so-called malarial diseases may be found in emanations from disintegrating organic matter, vegetative, or, what is worse, animal, is largely supported by pathological observation and therapeutical experience. It seems to exclude all skepticism as to its general authenticity. In attempting to substantiate the hypothesis which is offered in the title of this article, we need hesitate the less to make it our starting-point, because it is precisely the foregoing fact which speaks in favor of our statement that malaria is not a positive specific poison, but a negatively poisonous condition.

The notable chemical substance which is prominent in miasmatic emanations is methane (CH_4), or marsh gas. This is, strictly speaking, no poison. Neither is it a dietetic substance. An emanation which is positively poisonous is carbonic oxide (CO). But this occurs in such minute quantities that we are scarcely justified in tracing pathological complications to it. The particular circumstances, however, under which, as chemistry teaches, miasmatic emanations occur, substantiate the deleterious influence exerted by carbonic oxide, and, it may be, of marsh gas, or some other less known secondary substance. These circumstances are the very ones which our text-books describe as existing in malarial districts; swamps and alluvial bottom lands are the prototypes. Pathology contented itself with the simple statement—chemical investigation laid bare the cause of the said condition—it is a *comparative absence of oxygen*, which leads to putrid fermentation, and later to the formation of the noxious compounds. It is not this circumstance in itself which refers to the pathological point. The carbonic oxide is in too trifling a quantity, the marsh gas too inoffensive for either to exert an absolute influence on the etiology of malaria through the respiratory tract. The fact mentioned is more an agricultural than a biological one. But the further atmospherical condition linked to it is what speaks in favor of our hypothesis.

The text-books state one of the essential conditions for the operation of the presumptive poison, malaria, is the stirring of the ground in turning up the subsoil in the early cultivation of land,

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digging canals, building railways, and so forth. It is a chemical fact that carbon and hydrogen, the principal elementary constituents of miasmatic emanations have an affinity for oxygen, and *vice versa*, as in case of the stirring of the soil, sufficient to materially alter the even balance of the atmosphere in the hygienic proportion of its component gases. In consequence, a deficiency of oxygen will ensue, which, absolutely trifling though it be, by giving room to the atomicity of the carbonic oxide, and, possibly, even the marsh gas will realize its relative importance, and produce the peculiar pathological condition which the text-books describe as malarial poisoning. This explains, among other pertinent facts, the observation made and referred to in the text-books that, first, a higher stratum of air is comparatively free from malaria; second, in the more advanced stage of cultivation the malarial influence ceases. It is closest to the ground where the absorption of oxygen by the carbon and hydrogen set free is overwhelming. On the other hand, the progress of oxidation by the cultivation of the land must put a stop to the formation of either CO or CH^4; the unhealthy putrid oxidation is transformed into wholesome *eremacausis*.

The carbonic oxide poisoning in malaria is, as a matter of course, a chronic one. But its conditions correspond with those of acute cases, inasmuch as in these an excess of free oxygen renders the poison innocuous, so that it is more the absence of oxygen than the presence of carbonic oxide which must be called the cause of the disease. The difference between the chronic malarial poisoning and an acute poisoning by, e. g., the emanation from a coal-fire or gas-pipe, is sufficiently explained by the difference in the acting quantity, which in acute cases may be very considerable, and in cases of malaria in a given space of time analytically hardly perceptible.

The pathological lesions caused correspond with this difference in the effectiveness of the poisonous influence. In acute cases the deprivation of oxygen is so considerable that it is in the lungs where the mischief is being perpetrated; the pathological lesion in acute cases of deprivation of oxygen is almost a mechanical one—a mere choking. In the chronic form of malarial poisoning the pathological lesion is one of protracted influence, and the organs exposed to it are naturally those which constitutionally, or by way of their

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organic function, resent most a deficiency of oxygen. These organs are the liver, and, above all, the spleen.

The intermittent character of the malarial diseases, which the assumption of a specific poison leaves altogether unexplained, yields readily to demonstrative etiology if viewed by our theory. There is in the spleen a "functional intermittent turgescence," which is clearly related to the ingestion of food, and connected with the manufacture of white corpuscles and destruction of red corpuscles of the blood," and points as forcibly to the constitutional craving of the spleen for an excess of oxygen as to a deficiency of this indispensable ingredient in the case of morbid enlargement, especially the so-called ague-cake in prolonged breakbone fever.

This periodic turgescence explains also the action of quinine, its often surprisingly prompt effect, and still more frequent failure. Quinine causes contraction of the spleen. Its action there is like that of an astringent in the stomach, administered to cure a diarrhœa. If somehow or other nature is sufficiently strong, or the conditions under which the case of malaria occurs sufficiently favorable to supply ulterior healing influences, independent of medical interference, the doses of quinine given may "do it;" while in so-called pernicious cases no doses of quinine, short of killing ones, will, by their mere mechanical influence upon the spleen, stop the fever, let alone restore the spleen to healthy organic function.

The avidity with which oxygen is taken up by the soil is shown by the experiments of Joussingault and Lewy, according to which the sandy subsoil of a forest, fourteen inches deep, contained per acre fourteen cubic feet of carbonic acid, while a sandy soil, ten days after manuring and three days of rain, contained 1144 cubic feet, and a vegetable mould compost in the same proportion 772 cubic feet. The air of the atmosphere, on the other hand, measured to the height of fourteen inches over one acre, contained only fourteen cubic feet of carbonic acid.

Now, then, when, during such speedy clearing, as is undertaken in case of proposed tillage, the oxygen of the air is suddenly given access to a virgin soil that is teeming with oxidizable matter, is it not obvious that the oxygen, forced onward by its affinity, will rush into the turned-up carbon; and the air in its immediate neighborhood, viz: in the lower strata of the atmosphere, be deprived of the

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gaseous equipoise which constitutes the base of what we call hygienic surroundings, or residential conditions of health?

Individual circumstances connected with the malarial poisoning *in thesi* are in agreement with this theory. When it is said that marshy districts, which are overflowed with water, do not develop the poison malaria, and that sudden abundance of water by heavy rains stops its influence, this cannot be explained by assuming a specific substance "malaria." Such an explanation has been tried. It has been said "because the water absorbs the poison." But this, in conjunction with the statement that malaria is very apt to occur "along the banks of tropical rivers" is rather a queer statement. If the water of a pool absorbs the pretended poison, why does not the water of a running stream do it too? On the other hand, when we bear in mind that complete submergence effectually prevents a contact of the vegetable matter with the oxygen of the air, the natural consequence is, that the latter is restored to the hygienic proportions of its constituents, and in consequence deprived of its poisonous character. Even if the presence of carbonic oxide persisted, it would be inert on account of its trifling quantity in the excess of oxygen.

Again, our text-books say that the malarial poison is not formed if the atmosphere is dry, while malarial complaints "are particularly liable to occur after long-continued dry and hot weather, followed by warm rains." This cannot be satisfactorily explained by the assumption of a specific poison. It is at least somewhat doctrinary to teach that the poison, which cannot get out of the ground when it is covered with water, must also remain inert in case of drought; on the other hand, it is readily explained by the oxygen theory. It is a chemically notorious fact that the effect of oxygen on vegetable matter is conditioned by the presence of warmth and water. A rapid oxygenation, especially, will not take place without it; therefore protracted drought leaves the gaseous proportion of the atmosphere undisturbed. Artificial heat, it is said, destroys malaria. This would indicate a very frail condition of the latter as a specific poison, scarcely harmonizing with its ulterior persistency. But our theory notes this circumstance as a matter of course. Artificial heat in its physical effect is the equivalent of a protracted drought; it dries up, and thereby puts a stop to the oxygenation.

"Certain trees are said to exert an especially protective influence,

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particularly the *eucalyptus globulus*." Roberts, who mentions this, adds, "but this is more than doubtful," and from the standpoint of a specific poison, malaria, it could scarcely be made plausible. Accepting the oxygen theory, however, the protective influence of *eucalyptus globulus* is easily explained. This tree has a very rich foliage, and exhales a constantly greater amount of oxygen gas than other trees. And as it is a lack of oxygen which causes the distress in malarial districts, *eucalyptus globulus* is one of the most welcome trees which could be cultivated. Moreover, it thrives in low, warm situations, probably on account of its greediness for carbonic acid, CO_2. This corresponds with the observation that trees in large numbers afford protection; for with them, collectively, the same circumstance, i. e., dense foliage exists. And it is stated, at the same time, that trees in large numbers seem sometimes to be injurious; this is probably due to secondary circumstances; probably favoring too great an accumulation of carbonic acid by leaf-mould, etc.

Again, it is said that "morning and evening dews augment the danger from malaria materially," and the reason given is, "probably from condensation of the poison." But this explanation savors somewhat of an exaggerated sense of idiopathic pathological independence, for in physical science it is simply enormous to assume that a poison be condensed by mixing it with water. Even if a condensation were to take place as dew is tranformed from vapor, the alleged reason could not be that of an exacerbation of the topical condition, because, in that case, the air would become purified, and not the poison intensified. On the other hand, an explanation by the oxygen theory is all but convincing. An exhalation of oxygen by the plants never takes place in the absence of solar light. Consequently the poisonous influences exerted in a malarial district from over-abundance of oxidizable matter are more active at night than in the daytime; and if the morning and evening hours prove most dangerous, it must be remembered that they, in all diseases, are the more momentous periods of the day, and this from causes which are beyond the range of our present topic.

The specific poison theory of malaria does not attempt to explain why the toxic effect is so much less in winter. The oxygen theory explains this readily. In the first instance it is the decrease of decay in consequence of the reduced temperature; but a special cause must be found in the circumstances "that atmospheric ozone is most

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abuudant in winter." A deficiency of oxygen is, accordingly, acted against in a two-fold manner.

Last, not least, it is stated that over-feeding, especially meat diet and intemperance, predisposes to malaria. This does not agree with the specific poison theory; for alcohol is a favorite antidote in cases of poisoning; but it agrees perfectly with the oxygen theory. The more ingesta of nitrogen (meat) and carbon (alcohol) in a human body, the more its systemic circulation requires oxygenation, the more readily it is poisoned by a deficiency of oxygen, and in consequence made liable to splenic and hepatic disorders. These, in their turn, lead to accessory ailments, anæmia, etc., in a succession which in no way could be explained by the specific poison theory, but which bears out all the more the hypothesis propounded in this article.

A theory, in order to be able to stand, must be one that will satisfy all scientific requirements. This is the test of therapeutics. I know that it is rather difficult to apply. There is, as yet, very little that is objective in therapeutics. Oxygen is a remedy the value of which depends greatly upon its mode of administration. Its curative effect is not in the dosage, but in the persistency of its application. It is in this those fail whose minds are too much imbued with the specific poison supposition. But practice will correct itself here, as it will in many other cases. The number of those who are dissatisfied with the old method is rapidly increasing. May our exposition serve to induce them to apply the test of a reformed treatment.—*Medical Register.*

A NEW DEPARTURE IN THE DIAGNOSIS OF HEART MURMURS.

By W. Whitla, M.D., Physician to the Belfast Royal Hospital; Consulting Physician to the Ulster Hospital for Women and Children, etc.

It is needless to occupy space by enumerating evidences of the uncertainties and difficulties surrounding the diagnosis of cardiac murmurs. If proofs were demanded, one has only to refer to the recent revival of the battle of Presystolic vs. Systolic Murmurs, waged with rare ability in the Medical Society of London, and by Professor

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Gairdner and Dr. Dickinson elsewhere. The object of the present contribution is to point out the cause of the difficulties, and to suggest a method by which they can be, to some extent, overcome.

The site of maximum intensity, direction of conduction, and quality of the *bruit* (each of importance and value) may be omitted from our present consideration, the question of rhythm only falling under the scope of this paper. Given an ordinary case of valvular lesion, where, say, one murmur is heard about the region of the apex; the physician or student attempts to determine the relation of this murmur to the systole or first sound of the heart. If a normal first sound be present, there may be little difficulty; but very often the systolic sound cannot be discriminated from the second; it may be absent and its place taken by the murmur, or both sounds may be so altered that the ear fails to distinguish which of the three sounds is the murmur. One need not dwell upon the many possible combinations of sounds, *bruits* and pauses to show that often much difficulty exists in coming to a confident decision by the aid of the stethoscope alone, about whether the murmur precedes, accompanies or follows after the first sound. Anyone having experience in clinical teaching, must often realize how almost hopeless it is to aid the student mind in arriving at a positive conclusion.

Having failed to determine the rhythm of the murmur by "timing" it with the systolic sound of the heart, let us glance at the usual alternative methods employed in making the exact moment in the cardiac cycle at which the murmur comes in. Assuming that the first sound, the apex beat, the carotid pulse, and the systole of the ventricles are practically synchronous, the following procedures are available for timing the murmur: (1) By the finger on the apex beat; (2) by the finger on the carotid pulse; (3) by the eye watching either of these; (4) by feeling the stethoscope pressed against the ear by the cardiac impulse; (5) by the differential stethoscope.

(There are still other ways in which one may gain some help, such as contrasting the single elements of which the first sound is composed by listening over the tricuspid area, and accustoming the ear to their *timbre;* but this can be better done by the differential stethoscope, and need not be considered.)

By briefly examining these five methods, serious difficulties, fallacies and objections will be found to attach to each.

1. With the ear directly over the murmur and the finger on the

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apex, a distinct loss of time or delay is produced by the transmission of the tactile impression to the sensorium, the vibration having to travel over considerably more than one mètre, whilst the route of the acoustic impression is very short. This objection also tells against the second method. This fractional delay may not, on rigid physiological examination, be found to be a fatal objection. The following objection I believe to be fatal not only to the first, but to the second, third and fourth methods—namely, the impracticability of contrasting rapidly the results of impressions received by the mind through entirely different sets of nerves at the same moment. By such practice a clever observer may ultimately be able to confidently satisfy himself that the impulse received by the tip of his finger and conducted along the nerves of his upper extremity *via* the spinal cord and medulla reaches his sensorium, say, one-twentieth of a second before or after his auditory nerve registers a totally distinct sort of impression through the stethoscope. One must say that, after repeatedly testing this experiment with numbers of intelligent students, the only conclusion to be arrived at is that few men probably ever attain to this point of perfection in diagnosis. I am quite satisfied by experience, without being tempted into the fascinating regions of psychology for any theories, that some men find the feat an impossibility after long and wearisome trial.

In the third method, by using the binaural stethoscope the physician attempts to contrast the impressions produced through his optic nerves with those produced through his acoustic sense; and though this is not surrounded with difficulty so great as in the former case, nevertheless the source of fallacy is sufficient to render the method of little value. The period at his disposal during which he must come to a conclusion is so very brief that, before he can decide, the wheel has gone round, and another quickly following series of impressions comes up with vexatious rapidity, and blots out or reverses his former conclusion.

By pressing over the apex with the ear on the single stethoscope, the impulse may be felt by the nerves of the pinna and side of the head, while the murmur is heard by the ear. Though the error caused by delay in conduction or transmission is here eliminated, still the more serious difficulty of contrasting the impressions reaching the brain by different senses is again encountered.

In attempting to time a murmur by the differential stethoscope, the previously-mentioned difficulty is not met with; it is, however, unfor-

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tunately replaced by another almost as objectionable. Here one bell being placed over the murmur region, and the corresponding ear piece inserted against the meatus, the second bell is moved about till a spot is found at which the pure heart sound is heard by the other ear. The observer has to contrast the different impressions made upon the brain by both auditory nerves at the same instant. Many fail completely in performing this feat. The explanation of the failure opens up a highly interesting glimpse of psychology, but space forbids the digression.

The ease with which a thrill is recognized to be presystolic by simply placing the palm of the hand over the cardiac region and timing it with the apex beat is very suggestive. Two distinct vibrations are rapidly sent to the brain by the same telegraph wire with a very short interval between them, and there is practically no difficulty in most cases in determining which is first. If one had previously tried to determine which was first by feeling the thrill and listening to the first sound, great difficulty would be experienced through the confusion attending the use of the two telegraph wires.

It occurred to me that if the apex beat could be transformed into a short, sharp click produced by some simple mechanism in the inside of a stethoscope, we would then have a standard in this artificial first sound by means of which the ear alone could time adventitious cardiac sounds with ease and precision. Here the same condition of matters would maintain as exists in the timing of a presystolic thrill by the solitary sense of touch. The ear would hear the artificially produced systolic sound, and immediately after it, or before it, or accompanying it, the *bruit* would be easily registered.

Accordingly I had several forms of single stethoscope made in which the apex beat, after striking a tympanum stretched over the mouth of the chest-piece, was made by means of levers to ring out a sharp, clear rap in the interior of the instrument. Such an appliance (differing in no way in appearance from an ordinary stethoscope) when placed over the apex beat kept up a continual series of clicks, each of which corresponded with a cardiac systole or first sound. It is needless to enumerate the various failures in attempting to carry out this simple problem; suffice it to say that the difficulties of perfecting the mechanism appear to be greater than one could at first conceive.

The simplest form of apparatus is one which can be made and fitted inside a piece of silver formed exactly into the shape of an aural speculum, which can be ultimately fixed into the chest-piece of any

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plain wooden stethoscope. A band of rubber is stretched across the widest part or mouth of the speculum; from the centre of this band a piece of wire extends vertically up towards the narrowest aperture of the speculum, and, after passing through another narrow band of rubber which keeps it in its upright position, the wire has a fine silk thread attached to a minute hook on its end, which pulls a lever wrought by a minute spring. The lever makes a faint tap against a little anvil each time the impulse of the heart is received upon the band of rubber. If the strength of the apex beat is just sufficient to give the requisite amount of force to the lever, all goes well, but an undue amount of pressure applied by the ear of the physician throws the mechanism out of gear, so that one cannot say, in its present form, that its working is at all to be counted upon.

Mr. Brown, of Edenderry, devised for me a most beautiful piece of mechanism, which he fitted into a single stethoscope to carry out the same principle. In this instrument a band of rubber is stretched across the mouth of a rather large stethoscope; a small disc of wood is placed about the centre of the band, to which the end of a fine cord is fastened. This cord passes over a grooved pulley inside the bell of the stethoscope, on which it is kept tight by a spiral spring attached to its other end. The spindle of this pulley works a pair of multiplying levers, the second of which has a small hammer-head on its free end, which strikes on a thin brass tympanum.

The difficulty of adjusting the mechanism to the varying forces of different heart impulses prevents this instrument of being much use, and the friction sound occasionally produced by the coils of spring and lever is a fatal objection. There should be no reasons why a simpler contrivance could not be devised which would be free of these objections, and which would enable the ordinary stethoscope to produce in its interior an artificial systolic sound. I have not been able to devise such.

Fortunately, however, I have recently found that the desired object can be attained in a very much simpler way; indeed, in a way so simple as almost to provoke a smile.

The little contrivance consists of a small saucer-shaped disc of metal, about half an inch in diameter, from the concave surface of which arises a hollow stem of metal, which receives a piece of fine silver wire capable of being retained by the tiny thumb-screw in the socket formed by the hollow stem. The end of the wire is bent at a suitable angle,

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and tipped with a small bead, or made probe-pointed. The convex side of the disc is warmed, and being tipped with lead plaster, will firmly adhere when pressed against the chest wall over the region of the apex beat of the heart. The motion of the impulse is thus communicated to the wire, which, acting as a lever, can be made to exaggerate each movement in proportion to the length of wire. If now in the vicinity of the apex beat the ordinary stethoscope (single or binaural) be applied, and the wire so adjusted that it taps slightly against the wood of the stethoscope, the ear will hear what may be practically regarded as an artificial standard systolic sound by which murmurs can be timed with ease and accuracy. A little experience will dictate the way in which the wire should be bent or turned so that its tap will regularly fall upon the bell of the stethoscope. The latter should be placed at such a distance that the lever will not strike it at the very beginning of the act of impulse, but just at the instant when the full force of the apex beat has been communicated to the wire. It is easier to use this appliance along with the binaural stethoscope, as the operator can thus have the use of his eyes in adjusting the mechanism. After fixing the disc and wire *in situ* it is advisable to apply the stethoscope, and listen carefully for a few moments to the heart sounds before bringing the wire in contact with the wood. In this way the intensity and quality of the sounds or murmurs, and the length of the pauses, etc., can be examined and appreciated when, the sharp rap of the wire on the wood being induced, the rhythm will be demonstrated.

This little instrument, which for convenience might be termed a systolometer, may be modified in various ways; thus I have replaced the metallic disc with a minute cup-shaped piece of india-rubber, such as is used for suspending small articles from the polished surfaces of window panes or mirrors. The rubber being pressed firmly against the moistened skin, will adhere like the leather sucker known to every schoolboy, and will remain *in situ* sometimes sufficiently long to allow of examination. It is needless to say that the systolometer can only be used when a distinct impulse is present.

A very satisfactory form of systolometer can be extemporized by attaching a section of a wine or lemonade cork over the apex region, as referred to by Dr. Dickinson in his recent paper, and after securing it in position with strips of adhesive plaster, a piece of bent lemonade wire having been inserted into the cork can be used

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as a lever to strike the bell of the stethoscope, and mark the moment at which the natural first sound of the heart should be heard.

In a future contribution I hope to be able to give the results of this simple mechanism, applied to the investigation of some doubtful problems concerning the working of the healthy heart and the mechanism of the presystolic murmur. That the principle is correct upon which its usefulness depends there cannot be any doubt, and its application is now suggested with the hope that in the hands of abler observers its form will be improved and perfected, so that to the student, especially, its use may be an advantage.—*British Medical Journal.*

FÆCAL ANÆMIA.

At a recent meeting of the Medical Society of London, Sir Andrew Clark read a notable paper entitled "Observations on the Anæmia or Chlorosis of Girls, occurring more commonly between the Advent of Menstruation and the Consummation of Womanhood." Under this title the *Lancet* publishes the paper, but it more pithily expresses the view that the author took of the affection in the caption "Fæcal Anæmia," which heads its report of the discussion. It is not a particularly new idea that various diseases of the system at large, especially those that simulate the manifestations of certain diatheses, owe their origin and maintenance in great measure to inadequate intestinal action. Anæmia is no exception, and it is safe to say that almost every acute and experienced observer looks upon it as at least decidedly aggravated and protracted by torpor of the intestinal canal. Nevertheless, so far as we are aware, never before has so thorough and convincing a case been made out for the theory of the dependence of anæmia on constipation as in Sir Andrew Clark's paper.

We have not space to give a summary of the argument, but must content ourselves with presenting some of the more practical aspects of the author's conclusions. The crucial test of the theory, he admits, is in the treatment, and he maintains that the treatment which most speedily and effectually cures the disease is that in which, by the use of tonic aperients, full and regularly recurring

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action of the bowels is produced; that with the suspension of this treatment the disease recurs, to subside again on its resumption; and that no treatment appears to be permanently successful which does not provide means for securing daily relief to the intestinal canal.

In ordinary cases, he would direct the patient to sip a quarter of a pint of cold water on waking in the morning; to take a tepid sponge-bath on rising, drying herself quickly and then being rubbed briskly with towels; to clothe herself warmly and loosely, taking care that there is no constriction of the body or of the limbs. She should have four simple, but liberal meals, daily: Breakfast, between eight and nine, of whole-meal bread and butter, with one or two eggs, some broiled fresh fish, or the wing of a cold chicken or pheasant, and, toward the close of the meal, half a pint of equal parts of milk and tea, not infused longer than five minutes; lunch or dinner, between one and two, af fresh, tenderly dressed meat, bread, potato, some well-boiled green vegetable, and any simple farinaceous pudding or cooked fruit, preferably apple, drinking one glass of Burgundy, clear or in half a tumblerful of water; tea, between four and five, of whole-meal bread and butter, with a cup of equal parts of tea and milk; and dinner or supper, between seven and eight, resembling the midday meal, but smaller in quantity. Nothing is to be taken after this meal, and nothing between meals. The patient should walk at least half an hour twice a day, and as much more as her strength and convenience will allow. She should go to bed about ten o'clock, and at that time the sponging and toweling should be repeated. The bedroom should be cool and well ventilated. The patient should "lead a simple, regular, active, occupied, purposive life," and not notice or distrust herself. This seems to us an excellent regimen in the main, but we would substitute coffee for the tea.

Together with these hygienic instructions, Sir Andrew Clark prescribes an old-fashioned ferruginous cathartic, to be taken twice a day—usually some such acid mixture as one of twenty-four grains of sulphate of iron, six drachms of sulphate of magnesium, a drachm of aromatic sulphuric acid, two drachms of tincture of ginger, and eight ounces of compound infusion of gentian or quassia, one-sixth part of which is to be taken twice a day, at about eleven and six o'clock. Occasionally this causes nausea, dries the skin, and is otherwise ill borne. In such cases he prescribes a

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mixture which is much the same, save that it contains two drachms of bicarbonate of sodium instead of the aromatic sulphuric acid, together with a drachm of spirit of chloroform. If neither mixture agrees, he orders sulphate of iron in pills, to be taken with the meals, and a saline aperient in the morning. Under this plan of treatment, nine girls out of ten recover their health in from a month to three months, and the recovery is very likely to prove permanent if they are then ordered a pill of aloes, myrrh and iron, to be taken once or twice a week in doses just sufficient to bring about a moderate natural action of the bowels.—*N. Y. Medical Journal.*

HEART TROUBLES IN CONNECTION WITH TYPHOID FEVER.

Of the many complications and sequelæ of typhoid fever, there are few, if any, of greater importance than affections of the heart and blood-vessels. Within the last few years pathological study has shown how common they are, and the profession has been made acquainted with them largely by the teachings of Hayem, Martin, Barié, Osler and others; but our clinical knowledge of the subject has hitherto been very meager. The pathologist could readily explain the sudden deaths that were so common in typhoid fever, even during the period of convalescence, but the clinician did not always foresee the probability of such a termination, and consequently too often failed to take precautions to prevent it. Such being the case, a recent essay by Landouzy and Siredey, the first portion of which has been published in the "Revue de médecine," is particularly opportune. Last year the same authors drew attention to the lesions of the heart and the blood-vessels found in typhoid fever, and since then they have studied the subject from a clinical as well as from a pathological point of view.

The article alluded to gives the results of their observations in fourteen cases. In one case, that of a woman, death took place quite suddenly on the twelfth day of the fever, the patient dying in syncope on sitting up in bed. On the day before her death her pulse was 96, irregular and compressible, and there was a soft

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systolic murmur. Diffuse sclerosis of the heart and kidneys was found post mortem. In another case, a girl, eighteen years of age, previously healthy, died rather suddenly on the twelfth day of the fever. At the autopsy periarteritis and diffuse myocarditis were found. There had been no clinical evidences of the pathological lesions until an hour or two before the girl's death. In the next case, a man, twenty-three years old, died on the forty-third day of the fever, after having had several intestinal hæmorrhages. The heart-sounds were free up to the very last. There was infiltration of embryonic cellular elements in the walls of the blood-vessels of the viscera, especially the heart and the liver. In another case, cardiac pain and a loud systolic murmur were developed on the tenth day of a moderately mild attack of typhoid fever. After a few days the pain and the murmur gradually grew less intense, and in fifteen days both had entirely disappeared, and the patient made a good recovery. In another case there were signs of mitral insufficiency during the third week, and when the patient left the hospital, convalescent, the murmur had become more intense. In another case the interesting observation was made of the development of a double aortic lesion during a relapse of a mild attack. The patient was slow in recovering, and left the hospital with a loud diastolic murmur. Two other cases were instructive from the fact that, the patients' hearts having been carefully examined from day to day during a rather mild attack, a mitral murmur made its appearance in each case during convalescence, which seemed to be progressing favorably. In three cases the patients were admitted into the hospital for various heart affections, which, on careful investigation, were traced back to attacks of typhoid fever occurring two, five and fifteen years before.

These observations are especially interesting at a time when thoughtful physicians are disposed to question if the routine employment of internal antipyretics in typhoid fever is not doing harm. In the course of a discussion at the New York Academy of Medicine, not long ago, Dr. Loomis made the statement that during his last term of service at Bellevue Hospital he had had a much smaller percentage of fatal cases of typhoid fever than his immediate predecessor—simply, he thought, from his having omitted the use of internal antipyretics. Drugs of this class, as is well known, are nearly all cardiac depressants, and, in the light of our present

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knowledge, should be used with a very sparing hand. The writer vividly recalls a mild case of typhoid fever in which the persistent administration of acetanilide came near bringing about a fatal result. Lately such a result has been recorded in a German journal; in that instance the dose was small, and had been repeated only two or three times.—*N. Y. Medical Journal.*

THE TEXAS COURIER-RECORD.—We doubly welcome this excellent Journal, now under the editorial management of Dr. S. T. Thurston and Dr. H. K. Leake. We have known the senior editor as Doctor, Colonel and Doctor again for many years, and if ability at the bedside, in the trying scenes of country practice, or bravery and military sagacity in the peril of battle, at the head of the best North Carolina regiment, or in the cultivation of scientific medicine in the "piping times of peace," are tokens of ability, Dr. Thurston has them. The *Courier-Record* is greatly improved in appearance, and we wish for it literary and financial success.

YELLOW FEVER CURE BY A LAYMAN.—Henry Sack, who claims great experience in yellow-fever treatment, communicates to the Savannah *News* a cure of which the following is the gist:

"The treatment is simple as it can be. Cause an upward tendency of your or the patient's bowels, which will cause the gas to escape or move, and remove the coating of the tongue, and put the body into a free perspiration. The symptoms will disappear in less than an hour. It may be necessary to roll the body in a horizontal position to allow a change in the position of the bowels. Any method the patient may prefer will do, to show the patient he is not sick at all. To prove my theory correct, I am ready for any experiment on myself personally. HENRY SACK."

When this is proven we will have to pay our attention to that other "yerb doctor" who gets a purgative from a certian tree when he peels the bark upward, and an emetic when, from the same tree, he peels it downward, and enquire into the alleged difference between 'low belia" and "high belia."

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EDITORIAL.

THE NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C.,
GEO. GILLETT THOMAS, M. D., " } Editors.

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THE JOURNAL ENDS ITS TENTH YEAR.

Ten years ago the NORTH CAROLINA MEDICAL JOURNAL was issued with many misgivings on the part of its editors, of their ability, and knowing that there was an expressed opinion on the part of some of the profession, whose judgment we respected, that there was no room for such a publication. It took many years to pass the experimental stage and reach a position when the income was sufficient to cover expenses. It has been no easy task, but its day of experimental existence has ripened into a successful era, for which we are indebted to the growing progress of education in the profession.

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Since we took up the editorial pen there has been a marked progress in professional learning in our State, a fact which has attracted the attention of others than our own people. The Board of Medical Examiners has grown and strengthened during this period, and the general compliance with the law by new graduates, and the wise and just administration of the law by the Boards of Examiners, is a matter of especial congratulation. The efforts to elevate the standard of education under the action of the Board has been appreciated by all good citizens.

The State Board of Health begun its feeble existence with the JOURNAL, and has been able to reach a stage of progress which promises very much for the future. The JOURNAL has striven to stimulate the profession in sustaining the efforts of the Board, and while the condition of affairs is far from what it will be some day, there are unmistakable signs of increased interest, which means that physicians and the general public are being better informed about preventive sanitation and may be relied upon for future efforts.

The JOURNAL has taken a just pride in all these matters, and while it does not claim any undue proportion of merit for striving for these objects, its sincere aim has been to throw all of its influence and much of its hard-gained earnings into these prominent institutions of the Medical Society of North Carolina.

We are not unaware of our defects, as the scores of medical publications which visit our office give us abundant knowledge of what others are doing, but our subscription must be largely increased to enable us to furnish as much reading matter as the journals of the larger cities.

No other magazine, of any sort, as far as we know, has had a continuous existence for ten years, in North Carolina, and we take it as an augury that the future support of the medical profession will enable us to do far better in the future.

SUPRA-PUBIC LITHOTOMY.

We have recently had the pleasure of reading a historical sketch of this operation through the kindness of Dr. Charles W. Dulles, its author.

This method for operating for stone is growing in popularity, and

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Dr. Dulles thinks that there is danger lest it suffer by being overrated, even as it so long suffered by being underrated. After thirteen years of study and an analysis of 700 cases, he has come to the conclusion that a temperate view of the subject will lead to the conviction that the supra-pubic operation deserves rank above all other methods of lithotomy for stones of large size, and that its applicability to any case should be carefully discussed before deciding to cut through the perineum.

Dr. Dulles has compiled the bibliography of the operation and number of the operations performed.

The facility of operating by the high cut will doubtless lead many hereafter, to adopt it. We have called attention before to Mr. Annandale's method, viz: by seizing the stone in a lithotrite, depressing its handle so that the seized stone can be detected above the symphisis, cutting down on, and removing it. Stone is not common in North Carolina, but we have heard of about sixteen high operations, and the operators have spoken of the simplicity of it, and the excellent resnlts.

While it is exceedingly valuable for calculi too large to remove from the perineum, it is equally so for small calculi in children. A deep perineal section, with its attendant risks of hæmorrhage and permanent fistula, is formidable, more especially when the result is a stone of disappointly trivial size, as the writer has known.

We would like to put on record the cases of supra-pubic lithotomy done in the state, as some of were among the first done in the country.

EASTERN ASYLUM FOR INSANE COLORED PEOPLE.

There have been some changes in the management of this Asylum. Dr. J. B. Roberts, who for years has been Superintendent, has been supplanted. Dr. Roberts entered upon his work with zeal, and studied the details of his new work with the ardor of one who intended to make a life-time work of it. As distasteful as such work appears to most of the profession, he pursued it with scientific vigor, which attracted the admiration of his professional friends. Whatever may be his future, it will be surely enhanced by the professional achievements of this incumbency.

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Dr. J. F. Miller, of Goldsborough, has been elected to succeed Dr. Roberts. He is a practitioner of established skill and mature judgment, well known to the people and profession of East Carolina, and especially of Goldsborough, where he has practiced medicine for more than twenty years.

Dr. W. W. Faison, who has held the position of assistant in the Asylum during Dr. Roberts' term, still retains his position to complete his term.

We wish the new management success. Theirs is a difficult task, many alterations and improvements are imperatively demanded to put the establishment on a par with the other asylums in the State, as we learn, and this can only be brought about when the officers are thoroughly familiar with the needs of the establishment, and can succeed in getting a harmonious agreement of the Board of Directors. The Eastern Asylum ought to be advanced now above an experimental stage.

Red-haw is considered an excellent remedy for uterine hæmorrhage in Russia. A very strong decoction of the bark of the root is given. The plant used there (*British Medical Journal*) is *Cratægus officinalis*, but it is very likely that any of our well-known species would possess the virtues of the plant named.

Dr. R. C. Myles, of Claiborne county, Miss., a distinguished young scientist, who is now practicing in a London hospital, writes to a friend under date of August 8th: "I have had great luck lately in the case of the Crown Prince of Germany. Dr. McKenzie left the invention and construction of the instruments used in the last operation on his throat entirely to me, and I succeeded so splendidly that I was complimented by Dr. McKenzie, and when I was presented to the Prince Dr. McKenzie told him I was a great expert, and was the author of the instruments to be used on his throat. The Prince grasped my hand and was most friendly, and after the operation, which was a complete success, the Prince, after I explained the *modus operandi* of the electrode, said: 'Splendid, excellent,' and was joined by his German physicians in his most emphatic approval."—*Southern Churchman.*

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REVIEWS AND BOOK NOTICES.

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M.A., M.D., LL.D., Prof. Materia Medica and Therapeutics and Hygiene in the Jefferson Medical College. Sixth Edition. Revised and Enlarged. New York: D. Appleton & Co., 1887. Pp. 802.

Since 1876 this work has passed through six editions, a degree of favor which is seldom accorded to medical works. The author has always attracted a large number of readers, and this is remarkable, as his work came upon the stage when Stillé's masterly work and that of H. C. Wood were accepted as standard text-books.

This volume differs from the excellent new candidate for favor by Dr. Edes, noticed in this issue, in that it is more complete and full in the presentation of subjects, and that it notices nearly every new remedy.

The spirit of the author is shown in the following extract from the preface: "So numerous and serious are the fallacies of experiment and of clinical experience, that an author whose function it is to record the results, must maintain a judicial attitude, and examine into the pretensions of new remedies with the same jealous care that he defends the older medicaments against the assaults of medical iconoclasts. Much sifting of the material is necessary. Some of the new agents possess the virtues ascribed to them by their enthusiastic promoters; others seem hardly to justify their appearance in the *rôle* of remedy; and not a few, probably, are worthless for any purpose."

The evidences all through the volume shows a thorough alertness for all that is going, even Stenocarpine, "Gleditschine" coming in for a page and a half, as bright and as fresh as though the fraud was not fast on its way to the lumber room, which has opened its capacious doors for many hundreds of others. A delay of a month would have been long enough to have detected the fraud.

The article on coca is thorough, and has much in it that should attract the attentive study of all physicians. He says in one place: "The preparations of coca, especially the wine, are much employed as stomachic tonics. The consumption of wine coca must be enor-

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mous, for numerous preparations are on the market." * * * The author has observed that clergymen, and men with scruples and high moral character, take this wine freely, and not without a devout appreciation of its grateful action in time of need. He cites the instance of a clergyman of high character and high attainments, who informed him that he "found that a small wine-glassful of the wine of coca, taken before the morning service, banished fatigue, gave a resonant tone to his voice, and freed his intellect from the trammels of a written discourse, and gave scope and power to his sermon." The profession needs to reiterate this warning of Prof. Bartholow.

We have written in former issues of the journal our appreciation of this volume, and we take this occasion to say that we consider it essential to every well-selected library.

ANATOMY, DESCRIPTIVE AND SURGICAL. By Henry Gray, F.R.S. Drawings by H. V. Carter, M.D. Edited by T. Pickering Pick. A new American, from the Eleventh English Edition, thoroughly Revised and Edited, with additions, by William W. Keen, M.D. To which is added LANDMARKS, MEDICAL AND SURGICAL. By Luther Holden, F.R.C.S., with additions by Wm. W. Keen, M.D. Philadelphia: Lea Brothers & Co., 1887.

The students who plodded through "Pancoast's Wistar," or even who had "Horner," with the after-help of Horner and Smith's Atlas, or even the later addition of "Wilson," will remember with what delight Gray's Anatomy was welcomed. The charm of the new volume to the student was not far to seek. The prime attraction was the superior drawings, each organ labelled in distinct lettering so that the beginner overcame the inconvenience and confusion of going back to plates and referring to side figures to indicate certain organs. This one feature was enough to ensure its popularity, and it was soon adopted to the exclusion of the older text-books, notwithstanding the superior text of Wilson. During the Confederacy, when the Army Medical Boards were searching the qualifications of medical officers, in Richmond and elsewhere, a copy of Gray's Anatomy was worth its weight in silver to the anxious candidate. A few nights of careful study and gazing on the wood-cuts would photograph the names of muscle, artery and nerve in such a way that a candidate would surprise himself at the depth of

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his knowledge. As a book of ready reference before undertaking an operation, its possession in those troublous days was rare good fortune in the field, and could only be seconded by Bernard and Huette or Stephen Smith's little manual, of which now and then one was fortunate enough to get under flag of truce, or by capture.

As we recall that old edition and compare it with the fine, portly volume before us, we cannot help admiring the vast improvement in text, in illustrations and in its mechanical execution. Old clerical errors and errors of detail have been corrected, and new illustrations have been added until the number has now come to be 1,040.

In this particular edition colors have been used to indicate the attachment of muscles in red, arteries and veins in red and blue respectively, and the nerves in yellow. The color printing is so accurately done that there is no blurring or overrunning of colors, and the colors are so bright and distinct as to catch the eye almost at a glance.

The addition of Holden's Landmark, which has been a feature in several of the later editions, is retained in this, and has been added to by Dr. Keen.

The possession of Gray's Anatomy by the student and physician renders other additions to his library in this line superfluous.

TEXT-BOOK OF THERAPEUTICS AND MATERIA MEDICA. Intended for the Use of Students and Practitioners. By Robert T. Edes, A.B., M.D.. Philadelphia: Lea Brothers & Co., 1887. 8vo. Sheep. Pp. 550.

The aim of the author has been to present "concise, practical, working view of the present state of pharmacology and therapeutics, which shall select for the overburdened student and young practitioner the more important and immediately applicable details which properly find a place in the larger and encyclopœdiac treatises." The author has kept strictly to his text, and has written only of those things which are practical and pretty surely demonstrated or accepted. He has opinions of his own and states them clearly, and as far as we are able to discern, always safely.

The division of the book is after a simple and rational classification, which make it easy of reference; besides there is a useful "Therapeutic" and "General" index, both full and adequate.

Most of the newer remedies have been introduced, which is more to

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be remarked under the head of *antipyretics*. The author describes more fully Antipyrine and Antifebrin—he puts the dose of the former of from 8 to 30 grains, repeated once or twice at hourly intervals, and of the latter of from 2 to 15 grains; the smaller dose may be repeated in two or three hours. And, speaking of dosage, recalls that the dose of santonin is put at *one-fourth* of a grain to a child, a smaller dose than we remember to have seen suggested, but one which a more intimate knowledge of the dangerous character of the drug fully bears out. This writer for years was in the habit of giving from 3 to 5 grain doses to children, and it was the usual dosage many years back. Of the dosage of digitalis in delirium tremens he says: "Digitalis has been used in very large doses in delirium tremens, and this disease seems to confer a certain immunity from its effects. It should be restricted to cases where it is called for by the condition of the circulation rather than the name of the disease.

The authors's opinion about several new remedies is just and well worthy of confidence. It is surprising how few of the drugs which are lauded so highly when submitted to the judicial mind of a skilled therapeutist are relegated to the clutter-room of the apothecary. In a few words he gives the present status of *Convallaria*: "Convallaria is probably closely akin to digitalis, but passes into the second (toxic) stage less readily and produces less gastric irritation. Like digitalis, it often acts as a diuretic, and in the relief of dropsy, by raising blood tension. It is, on the whole, probably less efficient than digitalis."

We can heartily recommend Edes' Therapeutics for its sound teaching, the simplicity and directness of its language, for its compactness and thorough and judicious statements as to new remedies.

A Complete Hand-Book of Treatment, Arranged as an Alphabetical Index of Diseases to Facilitate Reference, and containing nearly 1,000 Formulæ. By Wm. Aitken, M.D. (Edin.), F.R.S. Edited, with Notes, by A. D. Rockwell, A.M., M.D. New York: E. B. Treat, 771 Broadway, 1887. Pp. 444.

This is one of the medical classics series, and we can commend it, for it differs materially from some of the scrap-book volumes which have been presented to the public from the hands of nominal editors.

The subjects are arranged alphabetically by diseases, with a sufficient number of cross-references to facilitate search. The selections from other authors are digested and presented with proper emphasis,

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so that in all the volume we see none of the clap-trap that enters into some works of similar character.

The therapeutics of the volume is sound, and none the less so that many of the new and ephemeral articles, and some still on trial, are not admitted to a place. Yet we think that cocaine has hardly had a fair showing.

Some of the doses given by English physicians are not employed in this country, and, indeed, many of such compounds are not only inelegant, and would cost a physician his practice by their repulsiveness. But the mere construction of the prescription does not at all detract from the soundness of therapeutics involved, except with those physicians that rely without questioning upon the favorite prescriptions of eminent men.

The volume is small and handy, but there is as much condensed in it as a skilful teacher and writer could get in it.

FOUR MONTHS AMONG THE SURGEONS OF EUROPE. By N. Senn, M.D.

Not a few medical men go to Europe for sight-seeing in the great capitals—some really go to study. Some few go well equipped by previous maturity of experience, and seeing the best work done, know how to tell what they see. Dr. Senn belongs to this latter class, and what he saw he has written down for the information of the large majority of us who will never get beyond this country. In truth, we might justly add, that many who expend large sums for the same purpose ostensibly as that performed by Dr. Senn, can get more out of these letters than by actual observation, save their money and avoid sea-sickness.

These letters were written to Dr. Fenger, and came out in *The Journal of the American Medical Association*, and are now reprinted in this desirable form, that they may be leisurely and continuously read. We have never read any descriptions of European surgeons and surgery that were at all comparable to these, and we know of no pleasure in the way of reading that we can recommend to our subscribers that has nearly as much entertainment and instruction.

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NOTES.

RAW OYSTERS are diuretic.

DR. RICHARD DILLARD, an honorary member of the Medical Society of North North Carolina, died at his home in Edenton recently.

THE North Carolina Asylum for the Insane at Raleigh has now 292 inmates—the largest number ever before cared for within its walls.

ANTIFEBRIN.—Warning notes are sounded on every hand about antifebrin. It is best to note symptoms in patients whose idiosyncrasy is not known.

SPANISH NEEDLES (*Bidens bipinnata*).—Dr. C. R. Gaul, of Jacksonwald, Pa. (*Therapeutic Gazette*), has had extraordinary success in treating asthma with this weed.

SPIRITS OF TURPENTINE deodorizes *iodoform*, according to *Le Progrés—Therapeutic Gazette.* A little rubbed on the hands, then wash with soap and water. It is almost too good to be true.

THE Raleigh Academy of Medicine held a meeting on the 7th of December and elected Dr. J. A. Sexton President, Dr. A. J. Buffalo Secretary, and Dr. P. E. Hines Treasurer.—*News & Observer.*

ANTIPYRINE FOR ASTHMA.—Dr. L. J. Graham, of Henderson, Texas, gives some favorable experience (*Daniel's Journal*) in the use of antipyrine in asthma. He gives fifteen grains, to be repeated in an hour.

THE *Medical World* has the latest novelty in a map of the tongue on which "localized seats of relationship to the various organs of the body" are definitely marked off in sections. The "discovery" is copyrighted.

IS IT not foolhardiness to exhibit leprosy for clinical use, and keep such subjects in the midst of communities just for the purpose of investigation? Leprosy is certainly communicable, and its unfortunate subject should be separated according to the good ancient practice.

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IPECACUANHA, for which the world's supply has come chiefly from Brazil, is, after many failures, successfully cultivated in India, but so far on a small scale. Assay showed 1.7 p. c. of emetine in the India root, which is th average of the Brazilian root.

ANTIPYRIN is not onlv a patented medicine, but there is some reason to believe that adulterated specimens are on the market. Complaints as to its falsification were recently presented to the Therapeutical Society of Paris.—*Medical Record.* [Antifebrin is not patented, is cheaper and gives better satisfaction.—EDS.]

The doctor is a generous man,
But people cheat him when they can;
They have their health restored on trust,
And pay him something when they must,
And swear no bill is bigger than—
The Doctor's!
—*National Druggist—Medical Record.*

COCAINE in the vomiting of pregnancy seems a rational treatment, freely applied to the vaginal roof and cervix, and in some instances inserting a probe covered with cotton saturated with the solution into the cervical canal. Dr. William Duncan, who reports it (*Lancet—Therapentic Gazette*), has had no miscarriages induced by his application, but of course it must be skilfully done.

AN English judge, settling a case in which one quack medicine man was suing the other for using his trade-mark, said, lest either party should be tempted to make the judgment a useful medium for advertising his article, he hoped he would add to the advertisement the following intimation: "No one should use this preparation except under medical advice."—*British Medical Journal.*

DR. JAMES E. REEVES, the distinguished ex-President of the West Virginia Board of Health, is about to remove from Wheeling to Chattanooga for the purpose of establishing himself in practice in the latter city. We trust that the more southerly climate will prove beneficial to him and the partner of his toils, and we congratulate Chattanooga on the accession of such an able physician to the medical faculty.

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CHOLERA BACILLUS A DIAGNOSTIC TEST.—The demonstration recently of Koch's cholera bacillus in the dejecta of a child from an Italian emigrant vessel, demonstrated the disease of the child to be cholera. The bacilli were cultivated at the Carnegie laboratory. Four days were required to allow the bacilli to grow, and the ship was detained until this demonstration was effected. Every physician ought to learn enough of bacteria cultivation to make such a test.

TINCTURE OF IRON AND CHLORATE OF POTASSA as an old-fashioned remedy should not be laid aside. Dr. McArthur (*Medical Record*) reminds us that its value has been clinically tested, and that chemically the action of tr. chl. iron on chlorate results in a mixture of chlorine, euchlorine, potassium chloride and ferric chloride. Euchlorine readily splits up into chlorine and nascent hydrogen, which are effective disinfectants and antiseptics. The best way is to add the tinct. chloride to dry chlorate, and then dilute to strength required.

LIMIT OF SENSITIVENESS IN TASTE.—The recent experiments of Fischer and Pouzoldt (Sensitiveness of the Sense of Smell," Liebig's *Annalen der Chemie*, B'd. 239, 131) have led me to search for some record of similar experiments determining the limits of the sense or taste. Finding none, a personal investigation was undertaken in which the following experiments were made: The substances examined were weighed and then dissolved in known volumes of the proper solvent. This solvent was generally water, and water was always used for dilution, so that the taste was not interfered with by the solvent. To eliminate personul error, two persons acted as tasters. In each case one cubic centimeter of the solution was tested. The solutions were diluted to a point at which they barely tasted (in some cases perceptible to only one of the experimenters), and this was taken as the limit.

The results were as follows:

Sugar.....	$\frac{1}{1000}$	of a grain barely tasted.
Salt	$\frac{1}{1000}$	" "
Tannin	$\frac{1}{10000}$	tasted $\frac{1}{10000}$ failed to taste.
Hydrochloric acid	$\frac{1}{10000}$	of a grain barely tasted.
Saccharin	$\frac{5}{1000000}$	" "
Strychnine.....	$\frac{5}{10000000}$	" "

F. P. VENABLE.

University of North Carolina.

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THE mortality from labor in China is estimated to be eight per cent, or about 400,000 deaths annually.

THE NAME OF DR. S. D. THRUSTON, the editor of the *Texas Courier-Record of Medicine*, is incorrectly given on page 360, for which we make this apology.

QUIET communities, as in North Carolina, have little to fear from leprosy, but it is reckless to exhibit leprous patients to curious students and others. Dr. Van Harlingen, of Philadelphia, was fined for not isolating two patients with this fearful disease.

EHRLICH'S TEST FOR TYPHOID URINE.—1. Sodium nitrite 1 part, aq. destill. 200 parts (is liable to be decomposed after from four to ten days. 2. Acid sulfanilic 5 parts, acid hydrochloric conc. pur. 50 parts, aq. destill. 1000 parts. Of solution (1) take 1.2 parts, of (2) take 50 parts, to form (3). Mix 3 in urine in about equal quantities, and add slowly aq. ammon. towards neutralization. The deep maroon color will soon appear. Test normal urine first, or alongside suspected urine.—*Dr. A. Jacobi in Journal American Medical Association.*

DECORATED BY THE SULTAN—A NEW YORK PHYSICIAN MADE A COMMANDER OF THE MEDIJIF.—Dr. Morris H. Henry, of No. 581 Fifth avenue, has recently received from M. Mavroyeni, the Turkish Minister at Washington, the decoration of Commander of the Medijie for distinguished contributions to medical and surgical science. Some years ago Dr. Henry discovered a method of treating diseases of the veins, and especially those which incapacitate men military services. He also devised instruments for removing the diseased and redundant portions of the tissues. Vein diseases are very common in Turkey, and until the adoption of Dr. Henry's invention large numbers of the Sultan's subjects escaped military duty because of them. The decoration is a gold cross surmounted by a crescent and a star, and is to be suspended around the neck by a red ribbon edged with green. Three years ago Dr. Henry received from the King of Greece the golden cross of the Saviour, the only decoration given by the Greek government. His Turkish decoration is the same as that presented by the Sultan to Congressman S. S. Cox and Gen. Lew Wallace, who were United States Ministers at his court.—*N. Y. Herald.*

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THE amount of crude opium imported into the United States has trebled in fifteen years.—*Medical Standard.*

A CATHETER may be passed with comparative comfort through a spasmodic stricture or enlarged prostate, if a small quantity of olive oil is injected into the instrument when its point reaches the obstruction. The oil is forced through the eye of the catheter and passes on in advance of the instrument, and serves the purpose of a lubricant just at the time and place needed.—*Jour. of Reconstructives.*

DR. ASA GRAY, the greatest American botanist, we regret to record, has been stricken with paralysis, so that his life-work of authorship is ended. He returned this fall with Mrs. Gray from a visit to Europe, where he had been making researches in order to complete the volume on the Polypetalæ for the third volume of his great work, "Synoptical Flora of America." Mr. Sereno Watson will succeed Dr. Gray. He has been Dr. Gray's associate for a long time, is thoroughly acquainted with all his unfinished work, and it is hoped will carry it on without delay. Dr. Gray was a medical graduate, but was not a practitioner long enough to have identified himself with it.

TREATMENT OF MIGRAINE.—During the paroxysm, says Dr. Dutt, in the *British Medical Journal*, strong coffee is sometimes useful, and a wet bandage, tightly bound round the head, is an old and well-known remedy, as the following dialogue from Shakspeare will show:

Desdemona—Why do you speak so faintly?
Are you not well?
Othello—I have a pain upon my forehead here.
Desdemona—Faith, that's with watching, 'twill away again;
Let me bind it hard—within this hour
It will be well.

Entire abstinence from food, or only the slightest nourishment, should be recommended at this time. Copious draughts of hot water, in which a teaspoonful of carb. soda is dissolved, will mitigate the attack. The recumbent position, in a quiet room, with subdued light, is beneficial. Medicinally guarana (30 to 60 grains) and antipyrin (preferably antifebrin), in two hourly doses of 15½ grains on rising in the morning, are most useful.

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LESSONS FROM SPECIALISTS.—Specialism, no doubt, is open to great evils, and medical education should never be specialized. The man, however, who works a specialty is often in a position to work to the point alone, the only sound way of proceeding on a new track. Teaching pupils is of great advantage to the general surgeon. Lecturing on a subject which will be thrown aside as soon as the lecturer can afford to forego the emoluments of the chair, and to vacate it in accordance with some hospital rule, may not be an unmixed evil, yet it is probable that many specialists have been doing all the better for working at their subject alone, free from the honorable burden of instructing youths who often take little interest in their labors; and most assuredly the same specialists have enjoyed the advantage of freedom from uncongenial drudgery at lectures on matters of secondary importance to them. We are convinced that many a young surgeon has been prevented, through the heavy burden of tutorial duties, from devotion to original research. That everything good does not come directly out of a medical school the introduction of anæsthetics amply testifies. Dr. Ephraim McDowell, whose biography Dr. Alexander Simpson has sketched in his recent lecture published in these pages, performed a once desperate operation in a backwood town. Here, however, let us be fair to the schools, for the Father of ovariotomy had been well taught, and had also taught himself well at Edinburgh, as Dr. Simpson explained in his Introductory Lecture. McDowell's early exploits sound like the legends attributed to Eastern sages. In his youth Buddha won races and studied learned books. In his youth McDowell beat a champion foot-racer, and conned books of travel and treatises on chemistry. He left college, sought no lecture chair, but took to practice, and gained a reputation as an operator. Most interesting is it for us to note that he was 38 years old when he performed his first ovariotomy. He was then mature, and had ripened on surgery; he had worked, in fact, to the point for years. Turning to Hodge, we find that he practiced for fifteen years before taking an appointment as lecturer; but the professorship which he held for forty years was entirely congenial to his tastes; it implied the teaching of the subject which he loved, and by which he made his bread. The invention of the lever pessary was no small matter; it was the result of years of patient observation matured by a happy thought. Pessaries have been modified almost to infinity; but this

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fact shows how actively the study of displacements has been pursued, a fact equally demonstrated by the violent attacks against pessaries made by men of high authority. If pessaries are to be abolished, it is only by proof of their uselessness compared with other methods of treatment, and this proof must be based on further study. Some very particular persons seem to despise pessaries because they are distinguished by inventors' names; but this evil has arisen far more through the love of convenience of nomenclature than through personal vanity. The pupil and the instrument-maker, not the gynæcologist, is generally to blame.

The early struggles of Marion Sims deserve to be remembered. No man ever did so much original work untrammeled by academic duties, yet he made a bad start in life through defective academic instruction. "Our indiscretions often serve us well when our best plots do pall," as Hamlet said; and the failure of Dr. Marion Sims to cure babies with infantile diarrhœa made him throw his door-plate down a well in disgust; then he went to a medical school again for a year; thence he fled once more to the wilderness, and practiced in a little town in Alabama. His learning did him yeoman's service. He had learned to observe. In a very short time he had reformed plastic surgery, and discovered the singular phenomena associated with the genupectoral posture. Such an example should not be forgotten by those who have the advantage of education at some venerable British University, and of membership of a staff of a great hospital, with its infinite resources. Let them not find out faults in Marion Sims; no, let them excel him in his merits—if they can.—*British Medical Journal.*

COCAINE IN STRICTURE.—A novel use of cocaine is reported in the New York *Medical Record* by Prof. Andrew H. Smith, and with results so encouraging as to justify a repetition of the practice in other similar cases. Dr. Smith recounts how, having been called in a case of retention of urine, he was unable to pass even a No. 4 catheter, this being the smallest he had provided himself with on leaving home. The stricture was situated on the membranous portion of the urethra, and urine was discharged only in drops. According to the patient's own account the obstruction was of several years' standing, but the existing retention was attributed to cold and fatigue experienced on the day preceding the attack. The method

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pursued by Dr. Smith in the emergency was to pass a large catheter down as far as the stricture, and then inject a few drops of a four-per-cent. solution of cocaine through the instrument. Ten minutes later the patient was able to pass his water freely, the bladder being thus emptied without any further assistance. The suggestion to employ cocaine in this connection presented itself, so Dr. Smith affirms, as the result of observing the mucous membrane of the nose under the influence of the drug, and the success achieved by it will probably encourage others to try it under like circumstances. [We warn all against using the oleate for this purpose. We have found it to cause most agonizing pain for a few minutes when injected into the urethra 10 per cent. strong.—EDS.]

THE URINE IN TABES DORSALIS.—The following facts are set forth by MM. Livon and Alezias as the result of a series of researches on the urine of patients affected with an apyrexial disease of the cord, namely, tabes dorsalis: A tendency to diminution of the urea eliminated in the twenty-four hours; a diminution in the total daily discharge of phosphoric acid, with a tendency to proportional augmentation of the discharge of earthy phosphates; a great variation in the elimination of chlorine, with a bias in favor of hyperchloruria. Intravenous injections of tabetic urines appear to be sufficiently toxic in their action, since it has been found that from twelve to twenty-four cubic centimeters of urine per kilogram of body weight of animals was sufficient to kill dogs.—*Lancet.*—*Practitioner and News.*

NOTE UPON THE LOCAL USE OF FLUID EXTRACT OF QUEBRACHO.—Mr. Bordeaux writes to the *Arckives Méd. Belges* that, according to his investigations which have been conducted within the last few years, quebracho is an energetic aid to cicatrization. Painted upon fresh wounds with a smooth edge, it produces transient stimulation and slight pain, just like collodion, and secures healing by first intention. It can also be used with good results in burns and frost-bite, if the ulcerated spots have a good ruddy aspect. The fluid extract of quebracho hardens in an hour after being painted on, and forms a dry crust resembling dried blood, which clings firmly to the tissue and can only be removed by warm water. The secretions of the wound dry up, and if the crust falls

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off the wound has healed, so that here healing under a scab can be properly spoken of. One great advantage of this treatment consists in the fact that all bandages may be dispensed with.—*Medical and Surgical Reporter.*

ALTHOUGH it may be said that Thompsonianism, with its "Composition" and lobelia, has long since taken a back seat, and the Pepper System of Medicine is being largely introduced.

PROF. BARTHOLOW states: "Gelseminum will often do more good in irritable bladder than any other remedy. It is especially adapted to those women of hysterical type, troubled by irritability at the neck of the bladder, calling for constant urination.—*Journal of Reconstructives.*

PINE-WOOL, made at the Acmé Fibre Works, near this city, makes an excellent dressing for wounds and for some skin diseases. It is light, balsamic, cleanly and cheap. We have written of it before, and more experience with it fully bears out our good opinion. This pine-wool is made from the needles of the long-leaf pine, and its preparation is entirely unique. We do not know if it is yet on sale, but presume that it may be had of the Acmé Company in this city.

THE SPREAD OF LEPROSY.—Within a brief period past the civilized world seems to have been awaking to a realization of the fact that, instead of leprosy proving to be the harmless curiosity that a few years ago it was held to be, it has in truth become a dreadful menace, calling for close attention and strong defensive efforts. The *Practitioner and News* has from the first insisted that leprosy is a contagious malady, and that at any time, should telluric or epidemic conditions favor it, the world may again witness such melancholy scenes as were only too common in the middle ages. It is not necessary now to repeat arguments to prove its contagiousness. The abundant evidence of this fact, brought to light in the recent past, has silenced all opponents. It remains now only to show how extensively it is spreading, and to make known the symptoms, so that early diagnosis may enable men to guard against the danger of infection. Leprosy, perhaps the most dreadful of all diseases, may in the near future require to be combated with more perseverance than has been exhibited in the history of any other contagious disease whatever.—*Practitioner and News.*

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THE fluid contents of an ovarian cyst always contain cholesterine, which is never found in cystic fibroid.—*Indiana Medical Journal.*

THE USE OF WATER AT MEALS.—Opinions differ as to the effect of the free ingestion of water at meal times, but the view generally received is probably that it dilutes the gastric juice, and so retards digestion. Apart from the fact that a moderate delay in the process is by no means a disadvantage, as Sir William Roberts has shown in his explanation of the popularity of tea and coffee, it is more than doubtful whether any such effect is in reality produced. When ingested during meals, water may do good by washing out the digested food and by exposing the undigested part more thoroughly to the action of the digestive ferments. Pepsin is a catalyptic body, and a given quantity will work almost indefinitely, provided the peptones are removed as they are formed. The good effects of water, drunk freely before meals, has, however, another beneficial result—it washes away the mucus which is secreted by the mucous membrane during the intervals of repose, and favors peristalsis of the whole alimentary tract. The membrane thus cleansed is in a much better condition to receive food and convert it into soluble compounds. The accumulation of mucus is specially marked in the morning, when the gastric walls are covered with a thick, tenacious layer. Food entering the stomach at this time will become covered with this tenacious coating, which for a time protects it from the action of the gastric ferments, and so retards digestion. The viscid contents, a normal condition in the morning before breakfast, is not suitable to receive food. Exercise before partaking of a meal stimulates the circulation of the blood and facilitates the flow of blood through the vessels. A glass of water washes out the mucus, partially distends the stomach, wakes up peristalsis, and prepares the alimentary canal for the morning meal. Observation has shown that non-irritating liquids pass directly through the "tubular" stomach, and even if food be present they only mix with it to a slight extent. According to Dr. Leuf, who has made this subject a special study, cold water should be given to persons who have sufficient vitality to react, and hot water to the others. In chronic gastric catarrh it is extremely beneficial to drink warm or hot water before meals, and salt is said in most cases to add to the good effect produced.—*British Medical Journal.*

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BOOKS AND PAMPHLETS RECEIVED.

Report of the New York State Board of Health for 1887.

Eclectic Magazine of Foreign Literature for November. E. R. Pelton, New York.

Diseases of the Heart. Second Part. By Dujardin Beaumetz, M.D., Physician's Leisure Home Library. Geo. S. Davis, Detroit.

Sixth Annual Report of the State Board of Health of New Hampshire. Vol. VI. 1887. Manchester, John B. Clarke, 1887.

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Treatise on Human Physiology, for the Use of Students and Practitioners of Medicine. By Henry C. Chapman, M.D. 8vo. Sheep. Pp. 944. Lea Brothers & Co., Philadelphia, 1887.

READING NOTICES.

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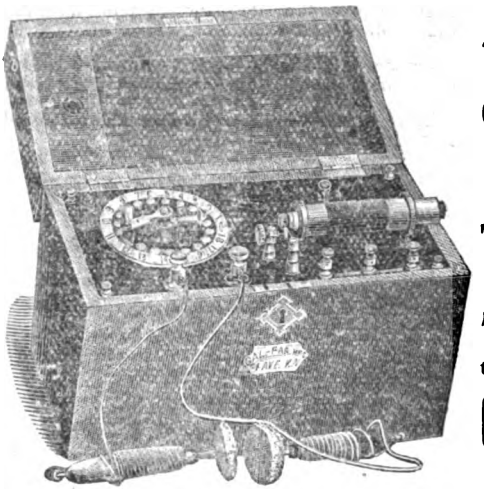

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